June 6, 2000

WORKING DRAFT #1

MEMORANDUM FOR   Chester E. Bowie
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Subject: American Housing Survey - National Sample (AHS-N): Specifications for Weighting 1999 Regular Data

I.   PURPOSE OF THESE SPECIFICATIONS

This memorandum provides the specifications for weighting* the regular data for the 1999 AHS-N Sample.

We provided a glossary of terms, a glossary of word abbreviations, and a table of contents in the last three attachments of the document (attachments F through H) for quick referencing.

We defined or explained the terms with an asterisk (*) next to them in the glossary of terms.

II.   OVERVIEW OF WEIGHTING PROCEDURE

This section contains an overview of the weighting procedure. First, we present a summary of the major changes compared to past years. Then, we define which units to use in the weighting. Finally, we summarize the factors that make up the final weight.

A.   Major Changes

This section highlights the major changes made to the weighting procedure. **They are changes from the AHS-N specifications for weighting 1997 regular data and they are highlighted in bold print throughout the 1999 AHS-N weighting specifications.**

1.   <u>Metropolitan Supplemental Sample</u>

We are using the metropolitan supplemental sample* in addition to the basic sample* in the 1999 AHS-N weighting. See Section II.B for a description of the metropolitan supplemental sample.

a.   <u>Sample Adjustment Factor</u>

In the past, we provided new AHS-N base weights when we use the metropolitan supplemental sample. Now, we will use the Sample Adjustment Factor (SAF) to modify the weights on units from the metropolitan areas involved in this sample supplementation.

b.   <u>Supplemental Sample in Philadelphia</u>

Beginning with 1999 AHS-N, the supplemental sample in Philadelphia from urban areas outside urbanized areas and from rural areas will be used during the weighting procedure. In 1995 AHS-N, sample in these areas were excluded from the data file and publication. This exclusion was done so that this sample could be used for the Philadelphia-MSA publication and data file that was produced using 1995 AHS-N sample. This splitting of the sample was done to meet confidentiality restrictions when it was determined that the population of both rural areas and urban outside urbanized areas were less than 100,000 (the minimum geographic area that can be identified on data files).

However, HHES realized that this population determination was done using the 1990 census boundaries of the urban areas outside urbanized areas. However, AHS-N uses 1980 Census geographic boundaries. The rural population and the urban population outside urbanized areas were both over 100,000. As a result, we can use both the basic and supplemental samples in Philadelphia in these areas on the 1999 AHS-N data file and publication when 1980 census geographic boundaries are used.

c.   <u>1980 and 1990 Census Design for Permit Segments</u>

In 1995 AHS-N, we distinguished the difference between the 1980 and 1990 census design for permit segments in metropolitan areas by using the first digit of the segment:

i.   1980 design permit segment: First digit = 1-6

ii.   1990 design permit segment: First digit = 7-9 and 0.

However, 15 segments that are not in the six metropolitan areas did not abide by the Afirst digit@ rule. There were 1980 design units with either a 7, 8, 9, or 0 in the first digit of the segment number because two huge 1980 design PSUs* collapsed into one 1990 design PSU. That collapsing produced a large amount of duplicate segment numbers, and therefore a large amount of duplicate control numbers. Thus, the Afirst digit@ rule doesn=t work.

Now, we will use the sampling base year variable from the AHS-N Master File to identify what sample (1980 or 1990 design) the unit comes from.

2.   Testing the Weighting System

Beginning with 1999 AHS-N, we will verify the weighting system on a flow basis. See Section II.D for a description of this operation.

3.   Type A Noninterview* Adjustment

We no longer use Table I.1, the table of Type A noninterview (NI) adjustment cells and scale values* for URE* units (see Section II.A.3.b). In the past, UREs were interviewed using the occupied questionnaire. Thus, there could have been Type A UREs. Now, UREs are interviewed using the series of questions for vacants. Because there are no Type A vacants, there won=t be any Type A UREs.

B.   Units to Use in the Weighting

For **1999**, you will use all units in the basic sample **and units involved in the metropolitan supplement sample**.

The basic sample consists of units whose supplement flag* value is blank. This sample includes units sent for interview in **1999**, as well as all prior year Type C noninterviews*.

The metropolitan supplemental sample consists of units from the following six metropolitan areas in the United States:

!   **Los Angeles**
!   **Chicago**

! **Detroit**
! **Philadelphia**
! **Northern New Jersey**
! **New York City.**

Units from the metropolitan supplemental sample are not part of the basic sample and have a supplement flag value of 1 or 3. This sample includes units sent for interview in 1999, as well as all prior year Type C NIs.

Due to the addition of the metropolitan supplemental sample in 1999, not all the sample returning from the field will be used during the AHS-N weighting process.

Exclude the metropolitan supplemental sample from Los Angeles in:

! **urban outside urbanized areas* and**
! **rural* areas.**

See Section VI.A.2 for the list of PSUs and items needed to exclude the sample in the above areas in Los Angeles from the 1999 AHS-N weighting process.

C. **Final Weight**

Multiply the following weights and factors to determine the final weight for tabulating 1999 estimates:

1. Base Weight (BW)
2. Weighting Control Factors
3. Sample Adjustment Factor (SAF)
4. Type A NI Adjustment Factor
5. First-Stage Ratio-Estimate Factor (REF)
6. Second-Stage REF before the raking procedure (i.e., Rake "0")
7. Third-Stage REF before the raking procedure (i.e., Rake "0")
8. Second-and Third-Stage REFs from the raking procedure.

The SAS variable names for the above weights and factors on the AHS-N weighting file are given in Attachment **A-1**.

We=ll discuss these components in sections IV through XI.

You=ll calculate two final weights:

1. one based on Census region* 1st stage factors
2. one based on OMB region* 1st stage factors.

Use double precision for all intermediate steps in the weighting procedure.

Save the intermediate weights and factors after each step in the weighting procedure. For each step in the weighting process, assign a factor of 1.0000 to all units for which no factor was applied.

D. **Testing the AHS-N Weighting System**

In addition to verifying the weighting procedure after all data are received, LSB will also verify the weighting system on data on a flow basis. This operation will reduce the verification time after data collection is completed. Because we=re testing the weighting system on a flow basis, there will be missing cases on the weighting file. The number of missing cases will vary according to Census region.

To adjust the BWs to account for these missing cases for each census region, multiply the BWs by a ▌missing cases factor● (MCF) on the AHS-N weighting file:

$$MCF_i = \frac{\text{Number of Cases Sent for Interview in Census Region } i}{\text{Number of Cases Received from FLD in Census Region } i}$$

where i = value of the census region variable (i = 1 to 4).

Suppose 58,600 cases were sent for interview. The following table shows the number of cases sent for interview by census region:

Census Region	Number of Cases
Northeast	11,700
Midwest	14,200
South	21,200

Census Region	Number of Cases
West	11,500

Suppose you received:

1. **3,900 cases from the Northeast region,**
2. **3,550 cases from the Midwest region,**
3. **10,600 cases from the South region, and**
4. **2,300 cases of the cases from the West region.**

Multiply the BWs by:

1. **a MCF of 3.0000 for the cases from the Northeast region,**
2. **a MCF of 4.0000 for the cases from the Midwest region,**
3. **a MCF of 2.0000 for the cases from the South region, and**
4. **a MCF of 5.0000 for the cases from the West region.**

Update this factor as soon as more cases are received on the weighting file. Once LSB finishes testing the weighting system on a flow basis, the MCFs won=t be used.

Because all noninterviews* are included in the numerator, include them in the denominator as well.

See Section XII.B for output required.

III.   DATA NEEDED FOR THE WEIGHTING

You will need data from several sources to construct your initial weighting data file and to perform the weighting. We will specify the data and the source in the appropriate sections of these specifications. Below is a summary of the different sources you=ll need.

1.   Master File of AHS-N Sample Units - This SAS dataset contains all units ever in sample for AHS-N, including units that weren=t sent out for interview in **1999**.

2.   Prior Year Data File - This SAS dataset contains data for the most recent prior year of AHS-N. If no prior year data is available, 1980 Census data is used. If neither AHS-N nor 1980 Census data is available, this information will be blank. DSD created and updated this file through the operations described in reference 3 of these specifications.

3.   Total Housing Unit Controls - LSB will provide DSD four numbers -- one control total for each census region -- courtesy of POP.

4.   Household Data File - DSD generated this file, which contains housing unit data items for the **1999** sample units.

5.   Person Data File - DSD generated this file, which contains demographic data items for the **1999** sample units.

6.   First-Stage Ratio-Estimation Factors - This SAS dataset will contain 1980-based first-stage REFs.

7.   Second-Stage New Construction Controls - LSB computed these control totals for the mobile home and conventional new construction cells through the operations described in reference 4 of these specifications. LSB will provide you one control total for each cell in the second-stage ratio-estimation procedure.

8.   Third-Stage Housing and Vacancy Survey (HVS) Occupied and Vacant Distributions (Percentages) - You will compute these percentages using CPS/HVS data, provided by the CPS Programming branch in DSD, through the operations described in reference 6 of these specifications.

9.   Mobile Home Losses Data File - You will need the file of MH losses from the prior year so that certain weights and factors for those units get updated during the weighting process. The updated version of this SAS dataset will contain both current and prior year MH losses as explained in reference 7 of these specifications.

10.   Current Year Data File - This intermediate file contains all the data collected during interviewing for the **1999** sample units and sample units not interviewed such as prior year Type C noninterviews. Merge the following data files on 1990 Control Number to construct the current year (CY) data file:

  !   Master File of AHS-N Sample Units
  !   Prior Year Data File
  !   AHS-N Household Data File
  !   AHS-N Person Data File.

        Append the file of MH losses from the prior year to the CY data file before the second-stage ratio-estimation procedure. Create the final AHS-N weighting file as a SAS dataset for verification purposes as soon as the weighting process is finished.

USE 1980 CENSUS-BASED GEOGRAPHY FOR THIS WEIGHTING (for

longitudinality and survey sponsor purposes).

IV.   BASE WEIGHTS

Complete the operations in reference 1 before starting this procedure.

You assigned each housing unit a base weight* (BW) to reflect its probability of selection.

You stored the BWs on the master file of AHS-N units, and we will verify them for the new and extra units before the weighting is run.

You already stored the BWs on the initial AHS-N weighting file through the operations briefly described in Section III.10.

The base weight is one of the three components used to compute what we=ll refer to as the "final base weight" in the AHS-N weighting. The other two components are the weighting control factors and the sample adjustment factor. The next two sections in this memorandum discuss these two components.

See Section XII.B for output required.

V.   WEIGHTING CONTROL FACTORS

Complete the operations in reference 2 before starting this procedure.

A weighting control factor (WCF) adjusts the probability of selection for a HU to reflect subsampling that takes place after the initial sample selection.

You stored the WCFs on the master file of AHS-N units, and we=ll verify them for the new units before the weighting is run.

You already stored the WCFs on your initial AHS-N weighting file through the operations briefly described in Section III.10.

Compute the "final WCF" as the product of all of the WCFs on the weighting file.

Save the following intermediate weights and factors at the end of this step in the weighting procedure:

1.   the WCFs applied to an unit
2.   the final WCF (variable FINWCF on the CY weighting file)
3.   the product of the base weight and the final WCF.

See Section XII.B for output required.

VI.   **SAMPLE ADJUSTMENT FACTOR AND THE FINAL BASE WEIGHT**

A sample adjustment factor (SAF) adjusts the weight on the appropriate units if:

1.   the supplemental sample (i.e., rural and metropolitan) is used or
2.   other adjustments are made to the sample.

Section VI.A discusses the assignment of the SAF to units inside the six metropolitan areas mentioned in Section II.B.

Section VI.B discusses the assignment of the SAF to units outside the six metropolitan areas.

Section VI.C discusses the calculation of the final base weight.

See Section XII.B for output required.

A.   **Assigning the Sample Adjustment Factor to Units Inside the Six Metropolitan Areas**

Using the segment type* codes in Attachments A-2 through A-4, assign the SAF to all units involved in the metropolitan supplemental sample.

(NOTE: these SAFs are the calculated ratios of the modified base weights from the 1995 AHS-N weighting and the regular AHS-N base weights given in the attachment of reference 1 of these specifications.)

1.   New York/New Jersey

The SAFs in Attachment A-2 include the following PSUs in the New York/New Jersey metropolitan area:

C   **PSU 34003 B Bergen County, NJ**
C   **PSU 34013 B Essex County, NJ**
C   **PSU 36059 B Nassau County, NY**
C   **PSU 36119 B Westchester County, NY.**

The only segment type that has unique SAF assignments for these PSUs is address segments*.

The four characteristics of importance in the SAF assignments for address segments in the New York/New Jersey metropolitan area are:

C   PSU,
C   Tenure (i.e., owner or renter),
C   Urban/rural* (1980 design), and
C   MSA status* (1980 design).

Use the stratum codes* from the following table for tenure <u>for units in the address segments only</u>:

Description of Tenure	Stratum Code
Owner	1 - 19, 44 - 49
Renter	20 - 43

Use the 1980 design urban/rural code URBRUR80 to distinguish land use (1 = urban, 2 = rural).

Use a value of 1 in 1980 design MSA status code to distinguish central city (MSASTA80 = 1).

2.   <u>Los Angeles</u>

The SAFs in Attachment A-3 include the following PSUs in the Los Angeles metropolitan area:

C   PSU 06037 - Los Angeles County, CA (1980 & 1990 design units)
C   PSU 06999 - Los Angeles County, CA (1980 design units).

The four characteristics of importance in the SAF assignments in the Los Angeles metropolitan area are:

C   Segment type,
C   Urban/rural (1980 design),
C   Urbanized area* (1980 and 1990 design), and
C   Census design (1980 and 1990 for permit segment).

Use the 1980 design urban/rural code URBRUR80 to distinguish land use (1 = urban, 2 = rural).

Use the sampling base year variable to distinguish both (1) the 1980 and 1990 design units and (2) the difference in census design for permit segments in Los Angeles.

C   1980 design units: SAMPLEYR = 80
C   1990 design units: SAMPLEYR = 90.

Use the urbanized area code UACODE80 for the 1980 design units (0 = outside urbanized area).

Use the urbanized area code UACODE90 for 1990 design units (9999 = outside urbanized area).

(Note: Use the data items and values mentioned above to exclude the supplemental sample in areas specified in Section II.B of the weighting procedure before assigning the SAF to units from the remaining areas.)

3.   **Philadelphia, Chicago, and Detroit**

The SAFs in Attachment A-4 include PSUs in the following metropolitan areas:

C   Philadelphia

        <   **PSU 34005 - Burlington County, NJ**
        <   **PSU 34007 - Camden County, NJ**
        <   **PSU 34015 - Gloucester County, NJ**
        <   **PSU 42017 - Bucks County, PA**
        <   **PSU 42029 - Chester County, PA**
        <   **PSU 42045 - Delaware County, PA**
        <   **PSU 42091 - Montgomery County, PA**
        <   **PSU 42101 - Philadelphia County, PA**

C   Chicago

        <   **PSU 17031 - Cook County, IL**
        <   **PSU 17043 - DuPage County, IL**
        <   **PSU 17063 - Grundy County, IL**
        <   **PSU 17089 - Kane County, IL**
        <   **PSU 17093 - Kendall County, IL**

> < **PSU 17097 - Lake County, IL**
> < **PSU 17111 - McHenry County, IL**
> < **PSU 17197 - Will County, IL**
> < **PSU 17308 - Cook, DuPage, IL**
> < **PSU 17398 - DuPage, Grundy, Kane, Kendall, Lake, McHenry, Will, IL**

> **Note: PSUs 17308 and 17398 contain 1980 design units while the other PSUs (17031, 17043, 17063, 17089, 17093, 17097, 17111, 17197) contain 1990 design units.**

C **Detroit**

> < **PSU 26087 - Lapeer County, MI**
> < **PSU 26093 - Livingston County, MI**
> < **PSU 26099 - Macomb County, MI**
> < **PSU 26115 - Monroe County, MI**
> < **PSU 26125 - Oakland County, MI**
> < **PSU 26147 - St. Clair County, MI**
> < **PSU 26163 - Wayne County, MI.**

The three characteristics of importance in the SAF assignments in the Philadelphia, Chicago and Detroit metropolitan areas are:

C **Segment type,**
C **Urban/rural (1980 design), and**
C **Census design (1980 and 1990 for permit segment).**

Use the 1980 design urban/rural code URBRUR80 to distinguish land use (1 = urban, 2 = rural).

Use the sampling base year variable to distinguish the difference in census design for permit segments.

C **1980 design permit segments: SAMPLEYR = 80**
C **1990 design permit segments: SAMPLEYR = 90.**

B. **Assigning the Sample Adjustment Factor to Units Outside the Six Metropolitan Areas**

Assign a value of 1.0 to the SAF for all units outside the six metropolitan areas.

These are units in PSUs not mentioned in Section VI.A.

C.   **Computing the Final Base Weight**

Now that you have the BWs, the WCFs, and the SAFs, compute the final base weight:

final BW = BW x final WCF x SAF

Save the following intermediate weights and factors at the end of this step in the weighting procedure:

1.   the SAF
2.   the final BW (SAS variable FINBWGT).

VII.   **TYPE A NONINTERVIEW ADJUSTMENT FACTOR**

We don't obtain interviews from all <u>eligible</u> sample HUs. To compensate for the loss of data from Type A NIs, we adjust (increase) the weights of the interviewed HUs.

The Type A NI adjustment factor adjusts the weight for units where the interviewer is unable to obtain the necessary information to complete an interview. This factor doesn≠t adjust for units we couldn≠t locate.

A.   **Data Needed for Cell Determination**

This section discusses when to use prior year (PY) or current year (CY) data to determine the Type A NI adjustment cell a unit belongs in. Calculate the Type A NI adjustment factor separately for each census region by the following **four of the** five groups:

1.   **URE** units **(no longer used)**
2.   1999 non-URE occupied units* without prior year data available
3.   1999 non-URE occupied units that were owner-occupied* or year-round (YR) vacants* for sale (based on the prior year data file)
4.   1999 non-URE occupied units that were renter-occupied* or YR vacants for rent* (based on the prior year data file)
5.   1999 non-URE occupied units that were other YR vacants* or seasonal and migratory vacants* (based on the prior year data file).

Use the CY data file for non-URE units from group (2).

Use the PY data file to determine the cell a unit belongs in for non-URE units from groups (3) - (5).

All records in the universe for the calculation and application of the Type A NI adjustment factor should have the following assigned from either the PY data file or the CY data file:

C   Tenure status* (i.e., owner or renter)
C   Type of HU*
C   Units in structure*
C   Number of rooms*
C   Vacancy status*.

This assignment of data was specified in reference 3 of these specifications.

B.   Noninterview Adjustment Cells

Use Tables I.2-I.5 in Attachment C for the Type A NI adjustment cells. The table number (i.e., 2-5) corresponds to the group in the above list in Section VII.A. These tables also contain the scale values to use in collapsing* (see Section VII.D). The universe for each table is given in a footnote.

C.   **Calculating the Type A NI Adjustment Factor**

Compute a Type A NI adjustment factor for each cell in Tables I.2-I.5. Let:

I_c =   Weighted sum of interviewed housing units in the cth NI cell in a Census region,

I_u =   Unweighted count of interviewed housing units in the cth NI cell in a Census region,

NI_c =   Weighted sum of Type A NIs (excluding Type A unable-to-locate NIs) in the cth NI cell in a Census region, and

NI_u =   Unweighted count of Type A NIs (excluding Type A unable-to-locate) in the cth NI cell in a Census region.

The Type A NI adjustment factor, F_c, is equal to the following ratio:

$$\frac{I_c + NI_c}{I_c}$$

Use the final BW for the weights of I_c and NI_c in the above formula.

D.   **Collapsing**

Collapse cells using the algorithm as specified in Attachment B.

E.   **Applying the Factor**

The universe for the application of the Type A NI adjustment factor is <u>all units that are regular occupied interviews</u>.

Apply the Type A NI adjustment factor to units that are regular occupied interviews in the four groups mentioned in Section VII.A.

All Type A NIs and other units that weren=t included in the universe for the calculation of the Type A NI adjustment factor get an implicit Type A NI adjustment factor of 1.0000.

See Section XII.C for output required.

VIII.   FIRST-STAGE RATIO-ESTIMATION FACTOR

The first-stage REF adjusts the weight for sampling from non-self representing (NSR) PSUs*.

This section discusses:

1.   What cells to use in applying the first-stage REF,
2.   How to determine the first-stage R-E cells, and
3.   How to apply the first-stage REFs.

Both sets of factors (i.e., for Census and OMB regions) are 1980-based first-stage REFs. They are the same ones used in the 1997 AHS-N weighting and will be used for future weightings in the foreseeable future.

See Section VIII.B for the universe for the application of the first-stage REF.

See Section XII.D for output required.

A.   First-Stage REF and Cells

Apply the first-stage REF using two different sets of cells:

1.   Census region
2.   OMB region.

Use the first-stage factors given in Table II.1 - Table II.4 (Attachment C-5 through C-6) for the Census regions.

Use the first-stage factors given in Table II.5 - Table II.14 (Attachment C-6 through C-9) for the OMB regions.

See Section XII.B for determining the first-stage R-E cells.

B.   Determining the First-Stage Ratio-Estimation Cells

The universe for the application of the first-stage REF is <u>records from NSR PSUs that are not in coverage improvement address segments</u>*.

Include only the following units in the first-stage R-E cells:

!   Interviews (i.e., regular occupied, UREs, and vacants)
!   Type B NIs*
!   Type C NIs*
!   Ineligible vacants*.

Exclude all Type A NIs because they are already represented in the Type A NI adjustment part of the weighting.

All records in the universe for the application of the first-stage REF should have the following assigned from the PY data or the CY weighting file:

!   Tenure status
!   Race* of reference person
!   Hispanic origin* of reference person
!   Vacancy status.

This assignment of data was specified in reference 3 of these specifications.

1.   Regular Occupied Interviews

      All records that are regular occupied interviews should already have CY tenure status (i.e., either owner-occupied* or renter-occupied*) data by the AHS-N edits.

      If a regular occupied interview record has owner-occupied information, then place it in the first-stage owner cell; if it has renter-occupied information, then place it in the first-stage renter cell.

      Use CY race* and CY Hispanic origin* data as well as CY tenure status data for the regular occupied interviews in the first-stage demographic cells (see tables II.3 and II.4 for the South and West regions; see tables II.7 through II.10 for the Philadelphia, Atlanta, Chicago, and Dallas OMB regions).

2.   UREs, Vacants, and Ineligible Vacants

      Place records that are UREs, vacants, and ineligible vacants in the first-stage vacant cells.

3.   Type B and Type C Noninterviews

Use PY data (if available) to determine which first-stage cell a Type B or Type C NI record belongs in.

a.   If a Type B or Type C NI record has PY owner-occupied* information, then place it in the first-stage owner cell; if it has PY renter-occupied* information, then place it in the first-stage renter cell. These are Type B and Type C NIs that were regular occupied interviews in the past.

Use PY race* and PY Hispanic origin* data as well as PY tenure status data for the Type B and Type C NIs in the first-stage demographic cells (see tables II.3 and II.4 for the South and West regions; see tables II.7 through II.10 for the Philadelphia, Atlanta, Chicago, and Dallas OMB regions).

b.   If a Type B or Type C NI record has PY vacancy status* information (i.e., both PY owner-occupied and renter-occupied information are blank), then place it in the first-stage vacant cell. These are Type B and Type C NIs that were either UREs, vacant interviews, or ineligible vacants in the past.

c.   If a Type B or Type C NI record doesn't satisfy conditions a. and b., then place it in the first-stage vacant cell. It is most likely a Type B or Type C NI that had never been an interview.

C.   Applying the First-Stage REFs

Apply the first-stage REF to records from NSR PSUs only. Include all segments except coverage improvement address segments. Include the following units:

1.   Interviews
2.   Type B NIs
3.   Type C NIs
4.   Ineligible vacants.

IX.   SECOND-STAGE RATIO-ESTIMATION FACTOR

We want the AHS-N HU estimates to be consistent with the independent estimates of the housing inventory. The second-stage REF adjusts the sample estimate for known deficiencies (generally undercoverage*) in sampling new construction units.

See Section XII.E for output required for second-stage REF.

A.   **Control Counts**

Use the 1990 based controls during these ratio estimation procedures.
Compute the second-stage REF twice for the controls by

1.   Using the weight obtained during first-stage cell computations with census regions and
2.   Using the weight obtained during first-stage cell computations with OMB regions.

The third-stage occupied and vacant control counts, are computed after the second stage of R-E (see Section X).

Save the second- and third-stage control counts produced in this section. Each step of the raking procedure uses these control counts (see Section X.C).

B.   **Second-Stage Ratio-Estimation Cells**

Use the cells in Table III (Attachment C-10) for the second-stage R-E procedure.

All interviews, ineligible vacants, mobile home losses*, Type B NIs, and Type C NIs should have the following assigned either from the PY data file or the data from the current enumeration:

!   Year built*
!   Type of housing unit
!   Units in structure.

This assignment of data was specified in reference 3 of these specifications.

Use CY data for interviewed units and ineligible vacants.

Use PY data for Type B and Type C NIs because they don=t have CY data. If Type B and Type C NIs have no second-stage data, then they should already have imputed data. This assignment of data was specified in reference 5 of these specifications.

You already used PY data in defining the MH losses (see Section III of reference 5 of these specifications).

C.   Calculating the Second-Stage REF

Calculate the second-stage REF using the ratio

$$\frac{\text{Control Total of HUs in a cell}}{\text{Sample Estimate of HUs in a cell}}$$

for each cell in Table III.

LSB will provide you with the numerators for each cell in Table III (see sections IX.D.2 and IX.E.2). You≠ll use them as the second-stage NC control totals. Note that you≠ll use the NC control totals and the independent control totals of total HUs to derive the old construction control totals (see Section IX.F.2).

Before you calculate the second-stage REF, you must exclude certain units from the sample estimate and from the application of the factor. Attachment E lists these units to be excluded from the sample estimate and from the application of the second-stage REF.

Use the sample estimates and control totals specified in sections IX.D.1-2, IX.E.1-2, and IX.F.1-2.

D.   Conventional New Construction

Use all non-mobile home* units having a year built of 1980 or later for conventional new construction* HUs.

1.   Sample Estimates

         Use the weighted sum of the following units:

         a.   Interviews (i.e., regular occupied, UREs, and vacants)
         b.   Type B NIs, excluding those mentioned in Attachment E
         c.   Type C NIs, excluding those mentioned in Attachment E
         d.   Ineligible vacants.

         Include all prior year Type C NIs excluding those mentioned in Attachment E in the sample estimate.

Exclude all conventional NC units with a year built of 1988 or later that are public housing units* from the sample estimate.

Use the following weight for the denominator of the second-stage REF for interviews, ineligible vacants, and the eligible Type B and Type C NIs. The weight equals the product of the following components:

< Final BW
< Type A NI adjustment factor
< First-stage factor.

Note that for the following units, the Type A NI adjustment factor has an implicit value of 1.0000:

! Ineligible vacants
! Type B NIs
! Type C NIs.

2. Control Totals

LSB will provide you the control totals for conventional NC units.

3. Applying the Factor

Apply the second-stage REF to the following conventional new construction units:

a. Interviews
b. Type B NIs, excluding those mentioned in Attachment E
c. Type C NIs, excluding those mentioned in Attachment E
d. Ineligible vacants.

Apply the second-stage REF to the public housing units excluded from the sample estimate.

E. **New Construction Mobile Homes**

Use all mobile home* units, including MH losses, having a model year* of 1980 or later for new construction mobile home* HUs.

1. Sample Estimates

Use the weighted sum from the following units as estimates for mobile homes:

a.   Interviews (i.e., regular occupied, UREs, and vacants)
b.   MH losses
c.   Type B-13s (unoccupied site for mobile home or tent)
d.   Type C-30s (demolished or disaster loss).

Note that the Type B-13s will be on the updated version of the file of MH losses when we=ll determine that they are losses.

Use the following weight for the denominator of the second-stage REF for interviews, MH losses, Type B-13s and Type C-30s. The weight equals the product of the following components:

<   Final BW
<   Type A NI adjustment factor
<   First-stage REF.

Note that for the following units, the Type A NI adjustment factor has a (implicit) value of 1.0000:

C   URE and vacant interviews
C   MH losses (prior year cases only)
C   Type B-13s
C   Type C-30s.

2.   Control Totals

LSB will provide you the control totals for NC MHs to calculate the second-stage REF.

3.   Applying the Factor

Apply the second-stage REF to the following new construction mobile home units:

<   Interviews
<   MH losses
<   Type B-13s
<   Type C-30s.

Drop the MH losses from the CY weighting file prior to the third-stage R-E procedure.

F.   Old Construction

Use all interviewed (i.e., occupied and vacant) units having a year built before 1980 for old construction* HUs. Exclude all ineligible vacant units.

Calculate and apply the second-stage new construction (conventional and MH) factors before you determine the old construction controls.

Compute the second-stage REF for one cell per region (occupied and vacant combined).

1.   Sample Estimate

Use the product of the following weighting components for the weight of interviews:

<   Final BW
<   Type A NI adjustment factor
<   First-stage REF.

Note that vacant units have an implicit Type A NI adjustment factor of 1.0000.

2.   Control Totals

Calculate the control totals using only weights from interviewed units from the first-stage REFs with Census regions. Don=t use the weights from the first stage REFs with OMB regions.

Don't compute the control totals during each raking. Compute them the first time you do the second-stage of R-E. Save these control totals for all rakings.

Use the following procedure to determine the control totals for old construction:

Step 1 Calculate the weighted sum (sample estimate) of interviewed NC units by region. Use the product of the following weighting components for the weight:

> < Final BW
> < Type A NI adjustment factor
> < First-stage REF
> < Second-stage REF.

Step 2 Subtract the sample estimate of interviewed NC units calculated in step 1 from the independent control totals of total HUs, supplied by LSB, separately by region. Use these results for the control totals for step 3 below.

Step 3 Calculate the second-stage REF for total old construction units (before raking) using the sample estimates from Section IX.F.1 and the control totals from step 2 of IX.F.2 and apply it to both occupied and vacant units. Save these results for the old construction controls for occupied and vacant units for all rakings.

3. Computing and Applying the Factor

Compute the second-stage REF for the following units using the sample estimate from Section IX.F.1 and the control totals from step 3 of Section IX.F.2 separately (in all rakings):

a. Occupied units
b. Vacant units.

Apply the second-stage REF to those units mentioned above.

G. **Control Totals for the Third-Stage Ratio-Estimation Cells**

Calculate the control totals using only the weight after the second-stage REF calculated using the first-stage REFs with the Census regions. Don=t use the weight calculated using the first-stage REFs with OMB regions.

Don=t compute the control totals during each raking. Compute them the first time you do the second-stage ratio-estimation. Save these control totals for all rakings.

Step 1 Calculate the weighted sum of interviewed HUs by region separately for occupied and vacant units. Use the product of the following components for the weight:

- < Final BW
- < Type A NI adjustment factor
- < First-stage REF
- < Second-stage REF.

Step 2 Compute the factors for each cell in Tables IV.1 - IV.2 (Attachments C-7 through C-10) using the third-stage percentages that you computed from CPS/HVS data (see Reference 6 of these specifications). Multiply the factors within each region for each of the cells in Tables IV.1 - IV.2, by the regional weighted occupied total for the region computed in Step 1. Use these results for the third-stage REF control totals for occupied housing units in Tables IV.1-IV.2.

Use Table IV.1 for the cells pertaining to occupied Hispanic and non-Hispanic units*.

Use Table IV.2 for the cells pertaining to occupied Black and non-Black units*.

Step 3 Calculate the factors for each of the cells in Table IV.3 (Attachment C-11) using the third-stage percentages that you computed from CPS/HVS data (see Reference 6 of these specifications). Multiply the factors within each region for each of the cells in Table IV.3 by the weighted vacant total for the region computed in Step 1. Use these results for the third-stage REF for vacant housing units in Table IV.3.

Use Table IV.3 for the cells pertaining to vacant units. Compute these factors separately by Census region.

Step 4 See Section XII.F for output required.

X.   THIRD-STAGE RATIO-ESTIMATION FACTOR

The third-stage REF adjusts the weight for the following groups:

- **!** Hispanic and non-Hispanic units (i.e., ethnicity)
- **!** Black and non-Black units (i.e., race)
- **!** Vacant housing units.

The universe for both the calculation and application of the third-stage REF is <u>records that are interviews (regular occupied, URE, and vacant) except ineligible vacants.</u>

See Section XII.F for output required for the third-stage REF.

A.   Third-Stage REFs For Occupied and Vacant Units

Use the 1990-based controls during the ratio estimation procedures. Compute the third-stage REF using interviewed units only. Do this procedure separately by region for both occupied and vacant units.

Note: You'll do this procedure twice, once using weights computed using Census regions during the first-stage REF and once using weights computed using OMB regions during that first-stage REF. The third-stage REF process will be the same using Census region weights and OMB region weights.

Compute these factors separately by Census region.

Use the following formula to compute the third-stage REF for the Hispanic/non-Hispanic, Black/non-Black, and Vacant groups:

$$\frac{\text{Control Total of HUs in a cell}}{\text{Sample Estimate of HUs in a cell}}$$

The control totals and sample estimates are defined in Sections X.B and X.C.

1.   <u>Occupied Units</u>

Use all units that are regular occupied interviews for the:

a.   Hispanic and non-Hispanic units; and
b.   Black and non-Black units.

Use the following 2-step procedure for the occupied units:

<u>Step 1</u> Compute and apply the third-stage factors for Hispanic and non-Hispanic units.

<u>Step 2</u> Compute and apply the third-stage factors for occupied Black and non-Black units after the factors in step 1 are applied.

Use Table IV.1 (Attachment C-11 through C-12) for the cells pertaining to occupied Hispanic and non-Hispanic units.

Use Table IV.2 (Attachment C-13 through C-14) for the cells pertaining to occupied Black and non-Black units.

2.   Vacant Units

Use all interviewed units that are UREs and (regular) vacants for the vacant units. Exclude all ineligible vacants.

Use a one-step procedure for the vacant units: calculate the third-stage vacant factor at the time you calculate the occupied Hispanic and non-Hispanic factors.

Use Table IV.3 (Attachment C-15) for the cells pertaining to vacant units.

 Place all UREs that are not seasonal and migratory vacants into the AYear-Round Vacants - Other@ cell so that the distribution of vacant units in the AHS-N is the same as those in the HVS.

B.   **Control Totals**

Use the results of step 2 in Section IX.G for the control totals of the cells in Tables IV.1.-2.

Use the results of step 3 in Section IX.G for the control totals of the cells in Table IV.3.

C.   **Sample Estimates**

Derive the third-stage sample estimates for the following groups:

!   Hispanic and non-Hispanic
!   Black and non-Black
!   Vacant.

1.   <u>Sample Estimates for Hispanic and Non-Hispanic Units</u>

Sum the weights of all occupied units in each cell of Table IV.1 using the product of the following weighting components for the weight:

<   Final BW
<   Type A NI adjustment factor
<   First-stage REF
<   Second-stage REF.

2.   <u>Sample Estimates for Black and Non-Black Units</u>

Sum the weights of all occupied units in each cell of Table IV.2 using the product of the following weighting components for the weight:

<   Final BW
<   Type A NI adjustment factor
<   First-stage REF
<   Second-stage REF
<   Third-stage Hispanic REF.

3.   <u>Sample Estimates for Vacants</u>

Sum the weights of all vacant units in each cell of Table IV.3 using the product of the following weighting components for the weight:

<   Final BW
<   Type A NI adjustment factor

> < First-stage REF
> < Second-stage REF
> < Third-stage Hispanic REF
> < Third-stage Black REF.

Note that the third-stage Hispanic and Black REFs are 1.0000.

D. Collapsing

Collapse cells in Tables IV.1-3 where necessary using the collapsing procedure in Attachment B, replacing the two criteria in step 2 with the following:

1. The number of unweighted units in each cell or collapsed set of cells must be 50 or more.

2. The third-stage REF for each cell or collapsed set of cells must satisfy the following condition:

$$0.5000 < \text{third-stage REF} < 2.0000$$

3. If the cells collapsed the first time the third-stage REFs were computed, then they should collapse for all rakings. NOTE: This condition will not cause cells to collapse during the initial computation of the third-stage factors.

E. Applying the Factor

Apply the third-stage REF to the following interviewed units:

1. Hispanic and non-Hispanic occupied units
2. Black and non-Black occupied units
3. Vacant units (URE and vacant interviewed units, excluding ineligible vacants).

XI. RAKING PROCEDURE

The AHS-N raking procedure is a repetition of the second- and third-stages of R-E. Use the raking procedure specified in the following sections to bring the sample estimates into closer agreement with the control totals for both the second- and third-stages of R-E.

Continue to use the same collapsed cells for the raking that you used for the second and third stages before the raking.

A.   **Criteria for Stopping the Raking Procedure**

Follow the pre-determined criteria when to stop the raking so that the weighting can be run completely.

Run the raking procedure until one of the following criteria is met:

1.   The factor for all cells in a table is between 0.98 and 1.02 or
2.   The change in each factor from one raking to the next is less than 0.015.

Apply the raking criteria separately within each region.

The second-stage REF and the third-stage Hispanic REF both have to meet this criteria to consider the weighting completed. Since the third-stage Black and the Vacant REFs are computed last, the sample estimate will always agree with the control.

B.   **Repetition of the Second-Stage of Ratio-Estimation**

Use the same procedure as specified in Section IX using the following weight modifications. Don=t compute any control totals.

1.   Use the product of the following weighting components for the weight of (1) interviewed old construction units in Section IX.F.1; (2) interviews, ineligible vacants, Type B and Type C NIs in Section IX.D.1; and (3) interviews, MH losses, Type B-13s, and Type C-30s in Section IX.E.1 for the first raking:

        <   Final BW
        <   Type A NI adjustment factor
        <   First-stage REF
        <   Second-stage REF
        <   Third-stage Hispanic REF
        <   Third-stage Black REF
        <   Third-stage vacant REF.

        Note:

        a.   If the unit is occupied, the third-stage vacant REF is 1.0000,
        b.   If the unit is vacant, the Type A NI adjustment factor is 1.0000 and the third-stage REFs for the occupied Hispanic and Black groups are 1.0000,
        c.   If the unit is an ineligible vacant, the Type A NI adjustment factor and all third-stage factors are 1.0000,

      d.   If the unit is either a Type B or Type C NI, the Type A NI adjustment and all third-stage factors are 1.0000, and

      e.   If the unit is a MH loss:

           i.   the Type A NI adjustment factor is 1.0000 (prior year MH losses only) and

           ii.   all third-stage factors are implicitly 1.0000.

                   (Note: you already excluded the MH losses from the third-stage R-E procedure)

2.   Include the second- and third-stage REFs from all previous rakings in the second and subsequent rakings.

3.   Save the second-stage REF and the third-stage Hispanic REF from the previous rake to test the conditions of the raking criteria.

C.   Repetition of the Third-Stage of Ratio Estimation

Use the same procedure as specified in Section X.A using the following weighting modifications:

1.   Use the product of the following weighting components for the weights of Hispanic and non-Hispanic units in Section X.C.1 for the first raking:

      <   Final BW
      <   Type A NI adjustment factor
      <   First-stage REF
      <   Second-stage REF
      <   Third-stage Hispanic REF
      <   Third-stage Black REF
      <   Repeat of second-stage REF.

2.   Use the product of the following weighting components for the weights of vacant units in Section X.C.3 for the first raking:

      <   Final BW
      <   Type A NI adjustment factor
      <   First-stage REF
      <   Second-stage REF
      <   Third-stage vacant REF
      <   Repeat of second-stage REF.

3.   Use the product of the following components for the weights of Black and non-Black units in Section X.C.2 for the first raking:

<	Final BW
<	Type A NI adjustment factor
<	First-stage REF
<	Second-stage REF
<	Third-stage Hispanic REF
<	Third-stage Black REF
<	Repeat of second-stage REF
<	Repeat of third-stage Hispanic REF.

4. Include the second- and third-stage REFs from all previous rakings in the second and subsequent rakings.

5. Save the second-stage REF and the third-stage Hispanic REF from the previous rake to test conditions of the raking criteria.

XII. OUTPUT AND VERIFICATION

A. General

1. Fixed and Variable Output

    There are two types of output used in verifying the weighting: fixed and variable. The fixed will be hard copy output that is supplied every year and does not change; the variable will likely be generated by LSB from a file DSD gives LSB access to.

    The output required in sections XII.C-XII.G is fixed SAS output. Provide row and column totals for all counts and tallies in the fixed output (unless specified otherwise).

    The SAS dataset file that LSB uses to generate its own variable output will need to have all intermediate weights and factors. We=ll want to have access to it at any point in the weighting procedure.

2. Output Requests

    Provide LSB with a file of all data needed to derive the counts in all tables. It needs to include any items used in defining the cells in the tables. We=ll independently check the unweighted cell totals.

LSB will also need the prior year data for the Type A NI adjustment, first-stage, and second-stage cells.

B.   Base Weights, Weighting Control Factors, and Sample Adjustment Factors

LSB will need access to the AHS-N weighting file from the current year as soon as you:

1.   store the BWs, the WCFs, and the SAFs; and
2.   compute the final BW.

This file should contain the intermediate weights and factors that you saved in Sections IV-VI.

LSB will do the following:

1.   **Determine whether the right units are used in the AHS-N weighting based on the supplemental sample flag and PSU (since there are PSUs involved with the metropolitan supplemental sample during the weighting process).**

2.   Match the CY weighting file to the master file of AHS-N units on 1990 Control Number to check the BWs and the WCFs on the CY weighting file.

3.   Determine whether the correct SAFs are applied to the correct units **by using the following items from the CY weighting file:**

      C   **1990 design PSU**
      C   **Supplemental sample flag**
      C   **Segment type**
      C   **Stratum code for tenure**
      C   **Urban/rural code**
      C   **MSA status**
      C   **Urbanized area code**
      C   **Sampling base year**
      C   **SAF.**

4.   **a.**   Check the computation of the final WCFs and the final BWs on the CY weighting file.

      b.   **Check the computation of the final BW before and after the application of the ▲missing cases factor● (MCF). Note that this check is conducted only during the verification of the weighting system on a flow basis.**

5.   Check for records having high final BWs of 10,000 or over. Note that in the future, you may have to compute a Maximum Weight Adjustment Factor to adjust the weight if it got too high.

C.   Type A Noninterview Adjustment Factor

Provide LSB with a printout and a SAS output file of the counts for each of the cells in Table I.2.-I.5. separately by census region. Provide row and column totals. Use the prior year data to define the Type A NI adjustment cells.

Sections XII.C.1 and XII.C.2 below describe LSB=s output request for the counts.

1.   Weighting Output Before Applying the Factor

Provide the following output before and after the collapsing procedure:

a.   Scale values
b. I_c and I_u
c. NI_c and NI_u
d. F_c.

Use the final BW for the weights before and after the collapsing procedure.

2.   Weighting Output After Applying the Factor

Provide the following output after applying the Type A NI adjustment factor for each of the original (i.e., uncollapsed) cell:

a. I_c
b. NI_c
c. F_c.

Use the weight after applying the Type A NI adjustment factor..

D.   First‒Stage Ratio‒Estimation Factor

Provide output using weights based on both Census and OMB region first stage factors for each item in this section.

Provide LSB with a printout and a SAS output file of the following information:

1. Unweighted and weighted sample counts, from NSR PSUs only, for each first‑stage R‑E cell both before and after application of the first‑stage REF. Provide these counts separately for the following:

    a. Interviews
    b. Type B NIs
    c. Type C NIs
    d. Ineligible vacants.

2. Unweighted and weighted sample counts, of interviewed units, for both SR and NSR PSUs combined after application of the first‑stage REF, for each of the cells used in the second‑stage R‑E procedure.

3. Unweighted and weighted sample counts, of interviewed units, for both SR and NSR PSUs combined after application of the first‑stage REF, for each of the cells used in the third‑stage R‑E procedure. Provide these counts separately for occupied and vacant units.

    Use the product of the following weighting components for the weight before application of the first‑stage REF:

    a. Final BW
    b. Type A NI adjustment factor.

    Use the product of the following weighting components for the weight after application of the first‑stage REF:

    a. Final BW
    b. Type A NI adjustment factor
    c. First‑stage REF.

4. Unweighted and weighted sample counts of SR PSUs before and after the application of the first-stage REF.

E. Second-Stage Ratio-Estimation Factor

Provide LSB with a printout and a SAS output file for the following groups both before and after the application of the second-stage REF:

! Old Construction
! Conventional new construction

! Mobile home new construction.

1. <u>Old Construction</u>

    Provide the following output:

    a. Control total used for each second-stage cell. Also, provide the total housing unit control supplied by LSB.

        NOTE: You can calculate the old construction controls once using the census weights. Then you use the controls when you compute factors using both the census and OMB weights.

    b. Scale values used for each second-stage cell.

    c. Total weighted sample estimate used in calculating the factor and total unweighted count in each cell in Table III. Include occupied and vacant interviews for old construction.

    d. Second-stage REF in each cell.

2. <u>Conventional New Construction</u>

    Provide the following output:

    a. Control total used for each second-stage cell.

    b. Scale values used for each second-stage cell.

    c. Total weighted sample estimate used in calculating the factor and total unweighted count in each cell in Table III by year built and units in structure. Provide these counts separately for each of the following types of units:

        i.   Interviews
        ii.   Type B NIs, excluding those mentioned in Attachment E
        iii. Type C NIs, excluding those mentioned in Attachment E
        iv.   Ineligible vacants
        v.   Public housing units.

        Note that the public housing units are part of the total weighted sample estimate that were excluded from the computation of the factor.

d.   Second-stage REF in each cell.

e.   Weighted sample estimates and unweighted counts of the Type B NIs listed in Attachment E.

f.   Weighted sample estimates and unweighted counts of the Type C NIs listed in Attachment E.

3.   <u>Mobile Home New Construction</u>

Provide the following output:

a.   Control total used for each second-stage cell.

b.   Scale values used for each second-stage cell.

c.   Total weighted sample estimate used in calculating the factor and total unweighted count in each cell in Table III by model year. Provide these counts separately for each of the following types of units:

i.   Interviews
ii.   Type B NIs
iii.   Type C NIs
iv.   Mobile home losses.

Note that the Type B and Type C NIs are those that were used to compute the factor.

d.   Second-stage REF in each cell.

e.   Weighted sample estimates and unweighted counts of mobile home losses that were used in each NC cell.

F.   Third-Stage Ratio-Estimation Factor

Provide LSB with a printout and a SAS output file of the following in each cell (both before and after collapsing) from the third-stage R-E procedure:

1.   <u>Weighting Output Before Applying the Factor</u>

Provide us with a printout and an SAS output file of the following output in each cell (both before and after collapsing) from the third-stage R-E procedure:

a.   Control totals used for each third-stage cell.

b.   Scale values used for each third-stage cell.

c.   Weighted sample estimates and unweighted counts before application of the third-stage Hispanic factor for each cell in Table   IV.1.

d.   Third-stage Hispanic factors

e.   Weighted sample estimates and unweighted counts before application of third-stage Black factor for each cell in Table IV.2.

f.   Third-stage Black factors

g.   Weighted sample estimates and unweighted counts before the application of the third-stage vacant factor for each cell in Table IV.3.

h.   Third-stage vacant factors.

2.   <u>Weighting Output After Applying the Factor</u>

Provide LSB with a printout and a SAS output file in each cell from the third-stage R-E procedure:

a.   Weighted sample estimates after application of the third-stage Hispanic factor for each cell in Table IV.1.

b.   Weighted sample estimates after application of the third-stage black factor for each cell in Table IV.2.

c.   Weighted sample estimates after application of the third-stage vacant factor for each cell in Table IV.3.

d.   Sample estimates in the second-stage R-E cells with and without the following units after application of all third-stage factors:

i.   Type B NIs (except those listed in Attachment E for conventional NC and those that weren=t used to compute the second-stage REF for MH NC).

ii.   Type C NIs (except those listed in Attachment E and those that weren=t used to compute the second-stage REF for MH NC).

iii.   Ineligible vacants.

For sample estimates in the second-stage R-E cells with Type B and Type C NIs, include all units used to compute the second-stage REF.

e. The difference between and the ratio of the second-stage control totals and the weighted sample estimates, for all second-stage cells, after all third-stage factors are applied. Include all units used to compute the second-stage REF.

G. Raking Procedure

Provide LSB with the output for the second-stage and third-stage R-E procedure each time through the raking. You don=t need to stop the raking each time to provide the raking output.

We=ll verify the output to determine whether:

1. the pre-determined criteria mentioned in Section XI are satisfied,
2. the criteria are applied within each region, and
3. the same set of third-stage cells are collapsing in every rake.

The raking output must contain the same output as specified for the second-stage and third-stage R-E procedure for each raking procedure. Use the weighting modifications for the sample estimate as specified in the raking procedure.

The raking output must also contain the differences in the factors from one raking to the next.

XIII. REFERENCES AND CONTACT PERSON

Working draft dated March 7, 1997 from Preston Jay Waite to Chester E. Bowie titled, "American Housing Survey - National Sample (AHS-N): Assignment of Base Weights to the Master File" is reference 1 of this memorandum.

Working draft dated April 10, 1997 from Preston Jay Waite to Chester E. Bowie titled, "American Housing Survey-National Sample (AHS-N): Units Requiring Weighting Control Factor (WCF) Information" is reference 2 of this memorandum.

Working draft dated April 14, 1997 from Preston Jay Waite to Chester E. Bowie titled, "American Housing Survey-National Sample (AHS-N): File of Prior Year Data Needed for Weighting" is reference 3 of this memorandum.

Memorandum for documentation from James Hartman and Alphonso Mason titled, A1999 American Housing Survey - National Sample (AHS-N): Control Totals for Mobile Home and Conventional New Construction Cells@ is reference 4 of this memorandum.

Working draft dated _____ from Alan R. Tupek to Chester E. Bowie titled, "American Housing Survey - National Sample (AHS-N): Assignment of Second-Stage Ratio-Estimation Cell Information to Type B and Type C Noninterivews" is reference 5 of this memorandum.

Working draft dated _____ from Alan R. Tupek to Chester E. Bowie titled, "American Housing Survey - National Sample (AHS-N): File of Mobile Home Losses" is reference 6 of this memorandum.

Working draft dated _____ from Preston Jay Waite to Chester E. Bowie titled, "Specifications for Third-Stage Ratio Estimation Cell Counts and Proportions" is reference 7 of this memorandum.

If you have any questions, please contact Alphonso Mason of LSB, Room 3785-3, ext. x3567.

Attachment A(4)
Attachment B
Attachment C(15)
Attachment D
Attachment E
Attachment F(19)
Attachment G
Attachment H

cc: E. Lamas   (DSD)   C. Alexander   (DSMD)
     T. Blatt (3)   "   D. Schwanz   "
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     B. Williams   "
     P. Harple   "

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Variable Names for the Weighting Components on the AHS-N Weighting File

Weighting Component	Variable Name
Base Weight (BW)	BASICWGT
Address Segment WCF	NADDRWCF
Address EDs in Sample with Certainty WCF	NCERTWCF
Coverage Improvement (CI) Address Segment WCF	NCIADWCF
CI Area Segment WCF	NCIARWCF
Large Cluster Subsampling WCF	NLCSFWCF
Permit Issuing CI Less than 3 measures WCF	NPIL3WCF
1990-Design Permit Subsampling WCF	NPR90WCF
Permit Segment WCF	NPRMTWCF
Subsampling WCF	NSUBLWCF
Unit Segment WCF	NUNITWCF
Unit Segments Less than 4 Units WCF	NUSL4WCF
Sample Adjustment Factor (SAF)	SAMPFAC
Type A NI Adjustment Factor	TANFAC
First-Stage REF (Census and OMB regions)	CST1FC, OST1FC
Second-Stage REF (pre-raking or Rake "0") (Census and OMB regions)	CST2FC0, OST2FC0
Third-Stage REF (pre-raking or Rake "0") (Census and OMB regions)	Hispanic/Non-Hispanic:CS3HFC0,OS3HFC0 Black/Non-Black: CS3BFC0, OS3BFC0 Vacant: CS3VFC0, OS3VFC0
Second-Stage REF (Rake i) (Census and OMB regions)	CST2FCi, OST2FCi (i = 1,2,...,n = total # of rakes)
Third-Stage REF (Rake i) (Census and OMB regions)	Hispanic/Non-Hispanic: CS3HFCi, OS3HFCi Black/Non-Black: CS3BFCi, OS3BFCi Vacant: CS3VFCi, OS3VFCi (i = 1,2,...,n = total # of rakes)
Final Weight (Census and OMB regions)	CFINWGT, OFINWGT

Note: the BW and the WCFs come from the AHS-N master file while the other components are generated during the weighting procedure.

Sample Adjustment Factor for 1999 AHS-N Records in Specific PSU / Segment Type Combinations in the New York/New Jersey Metropolitan Areas (PSUs 34003, 34013, 36059, 36119)

Segment Type	Segment Type Code	Sample Adjustment Factor
Special Place Segments*	**2**	**1.0**
HUCS Segments*	**6**	**1.0**
CI (Address) Segments	**8**	**1.0**
CI (Area) Segments*	**7**	**1.0**

Address Segments	**1**	**PSUs 34003, 36059, 36119:**
		   renters in urban areas*: 0.425743
		   renters in rural areas*: 1.0
		   owners in all areas*: 1.0
		
		PSU 34013:
		   renters in urban central city*: 0.425743
		   renters in other urban areas*: 1.0
		   renters in rural areas: 1.0
		   owners in all areas: 1.0

Unit Segments*	**3**	**1.0**
1980 Design Permit Segments	**4**	**1.0**
1990 Design Permit Segments	**4**	**1.0**

Sample Adjustment Factor for 1999 AHS-N Records in Specific PSU / Segment Type Combinations in the Los Angeles Metropolitan Area[1]

Segment Type	Segment Type Code	Sample Adjustment Factor
Special Place Segments	**2**	**1.0**
HUCS Segments	**6**	**1.0**
CI (Address) Segments	**8**	**1.0**
CI (Area) Segments	**7**	**1.0**
Address Segments	**1**	**urban inside urbanized areas*: 0.425743** **other urban areas* & rural areas: 1.0**
Unit Segments	**3**	**urban inside urbanized areas: 1.0** **other urban areas & rural areas: 1.0**
1980 Design Permit Segments	**4**	**urban inside urbanized areas: 0.425743** **other urban areas & rural areas: 1.0**
1990 Design Permit Segments	**4**	**urban inside urbanized areas: 1.0** **other urban areas & rural areas: 1.0**

---

[1] **Use these SAFs for PSUs 06037 (1980 and 1990 design units) and 06999 (1980 design units).**

Sample Adjustment Factor for 1999 AHS-N Records in Specific PSU / Segment Type Combinations in the Philadelphia, Chicago, and Detroit Metropolitan Areas[2]

Segment Type	Segment Type Code	Sample Adjustment Factor	
		Urban	Rural
Special Place Segments	2	1.0	1.0
HUCS Segments	6	1.0	1.0
CI (Address) Segments	8	1.0	1.0
CI (Area) Segments	7	1.0	1.0
Address Segments	1	0.425743	0.425743
Unit Segments	3	1.0	0.5
1980 Design Permit Segments	4	0.425743	0.425743
1990 Design Permit Segments	4	1.0	0.5

[2] **Use these SAFs for the following PSUs:**

Philadelphia - 34005, 34007, 34015, 42017, 42029, 42045, 42091, 42101
Chicago - 17308, 17398 (1980 design units)
Chicago - 17031, 17043, 17063, 17089, 17093, 17097, 17111, 17197 (1990 design units)
Detroit - 26087, 26093, 26099, 26115, 26125, 26147, 26163.

Procedure For Collapsing Cells

Use the following procedure for collapsing cells. Do this procedure separately within region.

Step 1   Start with the cell having the smallest scale value.

Step 2   If the cell satisfies <u>both</u> conditions,

      1. $I_u \geq 30$ if $NI_u > 0$ and

      2. $F_c < 1.5000$

      Go to Step 7. Otherwise, go to Step 3.

Step 3   Collapse the cell with a cell having the nearest scale value (smallest absolute difference).

Step 4   Compute the scale value for the collapsed cell by taking the average of the two scale values.

Step 5   Compute F_c for the collapsed cell.

Step 6   Go to Step 2.

Step 7   Select the cell with the next highest scale value.

Step 8   Go to Step 2.

Repeat the steps until all cells or collapsed cells satisfy the conditions in Step 2.

For Ratio-Estimation cells we have different criteria for Step 2.

Table I.1. **Type A NI Adjustment Cells and Scale Values**
          for URE Units

Type of URE	Owner	Renter
Ineligible Vacant	10	20
Other	40	50

NOTE: we no longer use Table I.1.

Table I.2. **1999 Type A NI Adjustment Cells and Scale Values**
          for 1999 NonBURE Occupied Units with No Prior Year Data Available[3]

Type of Segments/Units	Inside MSA		Outside MSA*
	Inside Central City*	Outside Central City*	
All Segments (except Permit Segments*)			
Owner			
Mobile Home	1510	1530	1540
NonBMobile Home	1650	1670	1680
Renter			
Mobile Home	1600	1580	1570

---

[3] The universe for Table I.2 is regular occupied interviews and Type A NIs (except Type A Unable-to-Locate NIs) having current year data (denoted by a missing value of the prior year data flag variable PYSURVYR on the AHS-N weighting file).

NonBMobile Home	1740	1720	1710
Permit Segments			
Owner	1810	1830	1840
Renter	1900	1880	1870

Table I.3. **Type A NI Adjustment Cells and Scale Values for 1999 NonBURE Occupied Units with Prior Year Data Available about Prior Year Status for OwnerBOccupied or YearBRound Vacants For Sale**[4]

Residence and Units in Structure*	Number of Rooms*			
	1B4	5	6	7+
MSA B Central City*				
1 unit structure	10	11	13	14
2 + unit structures	20	21	23	24
Balance MSA B Urban*				
Mobile Homes	250	251	253	254
1 unit structure	40	41	43	44
2 + unit structures	50	51	53	54
Balance MSA B Rural*				
Mobile Homes	270	271	273	274
Non-mobile Homes	145	146	148	149
NonBMSA B Urban*	65	66	68	69

---

[4] The universe for Table I.3 is regular occupied interviews and Type A NIs (except Type A Unable-to-Locate NIs) having both prior year data (denoted by values other than missing in prior year data flag variable PYSURVYR) and one of the following conditions:

1.   a value of 1 in the prior year tenure status variable PYTENURE (for owner-occupied units); or
2.   a value of 3 in the prior year vacancy status variable PYVACNCY (for Y-R vacants for sale) on the AHS-N weighting data file.

NonBMSA B Rural*				
Mobile Homes	280	281	283	284
Non-mobile Homes	155	156	158	159

Table I.4. **Type A NI Adjustment Cells and Scale Values**

for 1999 NonBURE Occupied Units with Prior Year Data Available about Prior Year Status for RenterBOccupied or YearBRound Vacants For Rent[5]

Residence and Units in Structure	Number of Rooms					
	1B2	3	4	5	6	7+
MSA B Central City						
1 unit structures	500	501	503	506	508	509
2B4 unit structures	530	531	533	536	538	539
5B19 unit structures	545	546	548	551	553	554
20+ unit structures	570	571	573	576	578	579
Balance MSA B Urban						
1 unit structures	650	651	653	656	658	659
2B4 unit structures	680	681	683	686	688	689
5B19 unit structures	695	696	698	701	703	704
20+ unit structures	720	721	723	726	728	729
Balance MSA B Rural						
1 unit structures	935	936	938	941	943	944
2+ unit structures	950	951	953	956	958	959
NonBMSA B Urban						
1 unit structures	785	786	788	791	793	794
2B4 unit structures	805	806	808	811	813	814
5+ unit structures	820	821	823	826	828	829
NonBMSA B Rural						

[5] The universe for Table I.4 is regular occupied interviews and Type A NIs (except Type A Unable-to-Locate NIs) having both prior year data (denoted by values other than missing in prior year data flag variable PYSURVYR) and one of the following conditions:

1. a value of 2 or 3 in the prior year tenure status variable PYTENURE (for owner-occupied units); or
2. a value of 1or 2 in the prior year vacancy status variable PYVACNCY (for Y-R vacants for rent) on the AHS-N weighting data file.

1 unit structures	972	973	975	978	980	981
2+ unit structures	987	988	990	993	995	996

Table I.5. Type A NI Adjustment Cells And Scale Values
For 1999 Non–URE Occupied Units With Prior Year Data Available about Prior Year Status for Other Year–Round Vacants or Seasonal and Migratory Vacants [6]

Type of Vacant*	Inside MSA		Outside MSA
	Inside Central City	Outside Central City	
Other Year–Round Vacants*	3010	3030	3040
Seasonal and Migratory Vacants*	3110	3130	3140

---

[6] The universe for Table I.5 is regular occupied interviews and Type A NIs (except Type A Unable-to-Locate NIs) having both prior year data (denoted by values other than missing in prior year data flag variable PYSURVYR) and a value of 4, 5, 6, 7, 8, 9, 10, or 11 in the prior year vacancy status variable PYVACNCY (for other Y-R vacants or seasonal and migratory vacants) on the AHS-N weighting data file.

Table II.1.

First-Stage Factors for the Northeast Region

Area	Owner	Renter	Vacant
MSA - Central City	0.59587	0.71085	0.79348
Balance MSA - Urban	0.76707	0.78993	0.79348
Balance MSA - Rural	0.84231	0.78613	0.79348
Non-MSA - Urban	1.28771	1.31179	1.53772
Non-MSA - Rural	1.02651	0.97065	0.65764

Table II.2.

First-Stage Factors for the Midwest Region

Area	Owner	Renter	Vacant
MSA - Central City	0.96722	0.93349	0.90245
Balance MSA - Urban	1.12648	1.17442	1.09787
Balance MSA - Rural	1.00778	0.93853	1.04735
Non-MSA - Urban	1.00639	0.98762	1.11161
Non-MSA - Rural	1.01874	0.99797	1.02663

Table II.3.

First-Stage Factors for the South Region

Area	Non-Black Non-Hispanic*		Black Non-Hispanic*		Hispanic		
	Owner	Renter	Owner	Renter	Owner	Renter	Vacant
MSA - Central City	1.12922	1.11361	1.04132	1.04832	1.24172	1.21952	1.07512
Balance MSA - Urban	0.88988	0.98469	0.94768	1.05592	0.88988	0.98469	0.83419
Balance MSA - Rural	1.14949	1.20911	1.61407	1.61407	1.14949	1.20911	1.10893
Non-MSA - Urban	0.96023	0.93972	0.93329	0.92760	1.17485	1.08767	0.58200
Non-MSA - Rural	0.98444	0.98267	0.90853	0.90942	1.38638	1.16735	0.95295

Table II.4. **First-Stage Factors for the West Region**

Area	Non-Hispanic*		Hispanic		Vacant
	Owner	Renter	Owner	Renter	
MSA - Central City	0.89699	0.92879	0.77724	0.88964	0.83406
Balance MSA - Urban	0.81404	0.70904	0.81404	0.70904	0.79989
Balance MSA - Rural	0.92183	0.92470	0.92183	0.92470	1.05637
Non-MSA - Urban	1.15524	1.26790	1.03929	1.22645	1.36865
Non-MSA - Rural	1.00053	1.11913	0.63165	1.06334	1.01234

Table II.5. **First-Stage Factors for the Boston OMB Region**

Area	Owner	Renter	Vacant
Urban*	1.13858	1.04877	1.36411
Rural*	1.03758	.93098	1.36411

Table II.6. **First-Stage Factors for the New York OMB Region**

Area	Owner	Renter	Vacant
MSA-Central City	.53924	.57943	.41534
Balance MSA - Urban	.59821	.57171	.41634
Balance MSA - Rural	.51502	.49231	.41634
Non-MSA - Urban	1.86819	1.81724	.83406
Non-MSA-Rural	1.62289	1.39672	.83406

Table II.7 **First-Stage Factors for the Philadelphia OMB Region**

Area	Black		Non-Black		Vacant
	Owner	Renter	Owner	Renter	
MSA-Central City	.86894	1.01676	.86894	1.01676	.95754
Balance MSA - Urban	.86608	1.05412	.86608	1.05412	.95754
Balance - Rural	1.10718	1.13710	1.10718	1.13710	1.97030
Non-MSA - Urban	1.02104	1.09414	1.02104	1.09414	.40409
Non- MSA - Rural	.67932	.58794	.90093	.89047	.40409

Table II.8 **First-Stage Factors for the Atlanta OMB Region**

Area	Black		Non-Black		Vacant
	Owner	Renter	Owner	Renter	
MSA-Central City	.95114	1.02967	.93202	.98291	.89745
Balance MSA - Urban	1.05321	1.10267	.93833	1.06293	.83486
Balance MSA- Rural	1.55459	1.55459	1.06019	1.16829	.97415
Non-MSA - Urban	1.00513	.97984	1.01854	1.01104	.88401
Non-MSA - Rural	.94533	.98590	.97583	.98183	.95361

Table II.9 **First-Stage Factors for the Chicago OMB Region**

Area	Black		Non-Black		Vacant
	Owner	Renter	Owner	Renter	
MSA-Central City	1.15650	1.14155	1.37655	1.36237	1.25694
Balance MSA - Urban	1.20106	1.21066	1.20106	1.21066	1.19590
Balance MSA - Rural	1.11170	1.04763	1.11170	1.04763	1.09515
Non-MSA - Urban	.85062	.84832	.85062	.84832	.95224

Non-MSA - Rural	.88954	.87680	.88954	.87680	.89051

Table II.10. **First-Stage Factors for the Dallas OMB Region**

Area	Hispanic		Black Non-Hispanic		Non-Black Non-Hispanic		
	Owner	Renter	Owner	Renter	Owner	Renter	Vacant
MSA-Central City	1.35890	1.29579	.98671	.92295	1.50176	1.40183	1.29784
Balance MSA - Urban	.93468	.94756	.98671	.92295	.93468	.94756	.88204
Balance MSA - Rural	1.66276	1.61196	.98671	.92295	1.66276	1.61196	1.44435
Non-MSA - Urban	1.00938	1.00680	.80375	.79563	.87273	.82896	.84228
Non-MSA - Rural	.71620	.99763	.99470	.93395	.96936	.97021	.95520

Table II.11. **First-Stage Factors for the Kansas City OMB Region**

Area	Owner	Renter	Vacant
MSA-Central City	.58382	.53162	.58663
Balance MSA - Urban	.70916	.77508	.58663
Balance MSA - Rural	.64830	.59882	.58663
Non-MSA - Urban	1.69395	1.67462	1.89323
Non-MSA-Rural	1.41692	1.29914	1.94766

Table II.12. **First-Stage Factors for the Denver OMB Region**

Area	Owner	Renter	Vacant
MSA-Central City	.78780	.89951	.85561
Balance MSA - Urban	.94784	1.24066	1.01637
Balance MSA - Rural	1.06942	1.24066	1.01637
Non-MSA - Urban	.80791	.79498	.88866
Non-MSA-Rural	.86771	.81216	1.04163

Table II.13. **First-Stage Factors for the San Francisco OMB Region**

Area	Owner	Renter	Vacant
MSA-Central City	1.01155	.98402	.75102
Balance MSA - Urban	.59852	.54749	.75102
Balance MSA - Rural	.68239	.63683	.75102
Non-MSA - Urban	1.51788	1.68256	1.85210
Non-MSA-Rural	2.09205	2.31365	2.37806

Table II.14. **First-Stage Factors for the Seattle OMB Region**

Area	Owner	Renter	Vacant
MSA-Central City	.95868	.93165	.76938
Balance MSA - Urban	1.08474	.88223	1.32464
Balance MSA - Rural	1.00571	1.05919	1.32464
Non-MSA - Urban	1.32969	1.45608	1.42661
Non-MSA-Rural	.97125	1.11295	.80694

Table III.**Second‑Stage Ratio‑Estimation Cells**

Type Of Unit	Northeast	Midwest	South	West
Old Construction				
Total HUs				
Occupied HUs[7]				
Vacant HUs[4]				
New Construction				
Conventional HUs B Jan 1980BDec 1984				
1 unit structures				
2+ unit structures				
Conventional HUs B Jan 1985BDec 1989				
1 unit structures				
2+ unit structures				
Conventional HUs B Jan 1990BDec 1994				
1 unit structures				
2+ unit structures				
Conventional HUs - Jan 1995-Dec 1999				
1 unit structures				
2+ unit structures				
Conventional HUs - Jan 2000-Dec 2004				
1 unit structures				
2+ unit structures				
New Construction B Mobile Homes				
model year 1980B1984				
model year 1985B1989				
model year 1990-1994				
model year 1995-1999				
model year 2000-2004				

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[7] Don≠t compute second-stage ratio-estimate factors for these cells. Use these cells to provide output only.

Table IV.1.

Third‑Stage Ratio Estimation Cells and Scale Values for Hispanic Control Totals

Tenure‑Race‑Age* of Head‑Of‑Household Status*	Region			
	Northeast	Midwest	South	West
Owner				
Non‑Hispanic				
Husband and Wife				
Under 25	10	135	360	485
25‑34	20	145	370	495
35‑44	26	151	376	501
45‑54	30	155	380	505
55‑64	33	158	383	508
65+	35	160	385	510
Other Male				
Under 25	50	175	400	525
25‑34	60	185	410	535
35‑44	66	191	416	541
45‑54	70	195	420	545
55‑64	73	198	423	548
65+	75	200	425	550
Other Female				
Under 25	90	215	440	565
25‑34	100	225	450	575
35‑44	106	231	456	581
45‑54	110	235	460	585
55‑64	113	238	463	588
65+	115	240	465	590
Hispanic				
Husband and Wife	690	750	810	870
Other Male	710	770	830	890

Other Female	720	780	840	900

Table IV.1. (cont'd)

ThirdBStage Ratio Estimation Cells and Scale Values for Hispanic Control Totals

TenureBRaceBAge of HeadBOfBHousehold Status	Region			
	Northeast	Midwest	South	West
Renter Hispanic Husband and Wife				
Under 25	950	1075	1300	1425
25B34	960	1085	1310	1435
35B44	966	1091	1316	1441
45B54	970	1095	1320	1445
55B64	973	1098	1323	1448
65+	975	1100	1325	1450
Other Male				
Under 25	990	1115	1340	1465
25B34	1000	1125	1350	1475
35B44	1006	1131	1356	1481
45B54	1010	1135	1360	1485
55B64	1013	1138	1363	1488
65+	1015	1140	1365	1490
Other Female				
Under 25	1030	1155	1380	1505
25B34	1040	1165	1390	1515
35B44	1046	1171	1396	1521
45B54	1050	1175	1400	1525
55B64	1053	1178	1403	1528
65+	1055	1180	1405	1530
Hispanic				
Husband and Wife	1630	1690	1750	1810
Other Male	1650	1710	1770	1830
Other Female	1660	1720	1780	1840

Table IV.2.
Third‑Stage Ratio Estimation Cells and Scale Values for Black Control Totals

Tenure‑Race‑Age Of Head‑Of‑Household Status	Region			
	Northeast	Midwest	South	West
Owner				
White and Other				
Husband and Wife				
Under 25	10	135	360	485
25‑34	20	145	370	495
35‑44	26	151	376	501
45‑54	30	155	380	505
55‑64	33	158	383	508
65+	35	160	385	510
Other Male				
Under 25	50	175	400	525
25‑34	60	185	410	535
35‑44	66	191	416	541
45‑54	70	195	420	545
55‑64	73	198	423	548
65+	75	200	425	550
Other Female				
Under 25	90	215	440	565
25‑34	100	225	450	575
35‑44	106	231	456	581
45‑54	110	235	460	585
55‑64	113	238	463	588
65+	115	240	465	590
Black				
Husband and Wife	690	750	810	870
Other Male	710	770	830	890
Other Female	720	780	840	900

Table IV.2. (cont'd)

Third‐Stage Ratio Estimation Cells and Scale Values for Black Control Totals

Tenure‐Race‐Age Of Head‐Of‐Household Status	Region			
	Northeast	**Midwest**	**South**	**West**
Renter				
White and Other				
Husband and Wife				
Under 25	950	1075	1300	1425
25‐34	960	1085	1310	1435
35‐44	966	1091	1316	1441
45‐54	970	1095	1320	1445
55‐64	973	1098	1323	1448
65+	975	1100	1325	1450
Other Male				
Under 25	990	1115	1340	1465
25‐34	1000	1125	1350	1475
35‐44	1006	1131	1356	1481
45‐54	1010	1135	1360	1485
55‐64	1013	1138	1363	1488
65+	1015	1140	1365	1490
Other Female				
Under 25	1030	1155	1380	1505
25‐34	1040	1165	1390	1515
35‐44	1046	1171	1396	1521
45‐54	1050	1175	1400	1525
55‐64	1053	1178	1403	1528
65+	1055	1180	1405	1530
Black				
Husband and Wife	1630	1690	1750	1810
Other Male	1650	1710	1770	1830
Other Female	1660	1720	1780	1840

Table IV.3.
Third—Stage Ratio Estimation Cells and Scale Values for Vacant Units (Including UREs)

Type of Vacancy	Inside (P)MSAs		Outside (P)MSAs
	Inside Central City	Outside Central City	
Year—Round Vacants			
For Sale*	1200	1210	1230
For Rent*	1280	1290	1310
Other*	1360	1370	1390
Seasonal and Migratory Vacants*	1440	1450	1470

States and 1980 Codes in OMB Regions [8]

I.   Boston   (27)-Minnesota
       (9)-Connecticut   (39)-Ohio
       (23)-Maine   (55)-Wisconsin
       (25)-Massachusetts
       (33)-New Hampshire
       (44)-Rhode Island
       (50)-Vermont

II.   New York
       (34)-New Jersey
       (36)-New York

III.   Philadelphia
       (10)-Delaware
       (11)-D.C.
       (24)-Maryland
       (42)-Pennsylvania
       (51)-Virginia
       (54)-West Virginia

IV.   Atlanta
       (1)-Alabama
       (12)-Florida
       (13)-Georgia
       (21)-Kentucky
       (28)-Mississippi
       (37)-North Carolina
       (45)-South Carolina
       (47)-Tennessee

V.   Chicago
       (17)-Illinois
       (18)-Indiana
       (26)-Michigan

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[8] A Roman numeral represents the OMB Region Number.

List of Units Excluded from the Sample Estimate During the Second-Stage Part of AHS-N Weighting[9]

Unit	Reason
All Type A NIs	All Type A NIs are already represented in the Type A NI adjustment part of the weighting.
Type B NIs in address, special place, unit, or HUCS segments (SEGMTYPE = '1', '2', '3', or '6', respectively) that were non-mobile homes in the prior year	A Type B NI in a unit, special place, address, or HUCS segment that was a non-MH in the prior year is old construction.
CY Type B-10 (permit granted, construction not started) or B-11 (under construction, not ready)	A Type B-10 and B-11 unit was never a HU in the first place, and therefore cannot be a loss.
CY Type B-13 (unoccupied site for mobile home or tent) if there was never a mobile home (MH)	A Type B-13 that never had a MH on the site before couldn≠t be lost.
CY Type B-12 (permanent or temporary business or commercial storage), B-14 (other unit converted to nonstaff), or B-17 (other Type-B NI) if they were never an interview	A Type B-12, B-14, or B-17 that was never an interview was never a HU in the past and therefore can≠t be a loss.
CY interviews and noninterviews that were a Type B-12 or B-14 in the first year in sample in permit (SEGMTYPE = '4') or coverage improvement area (SEGMTYPE = '7') segments	These types of units are not included in the SOC 2nd-stage controls.
Type B-15 (occupancy prohibited) or B-16 (interior exposed to the elements) in coverage improvement area segment if they were never an interview.	A Type B NI that was never an interview couldn≠t be lost.
Type C NIs in address, special place, unit, or HUCS segments that were non-mobile homes in the prior year	A Type C NI in a unit, special place, address, or HUCS segment that was a non-MH in the prior year is old construction.
Type C-31 (House or MH moved) if there was never an interview	A Type C-31 unit that never had an interview was never a HU, and therefore cannot be a loss.
Type C-36 (permit abandoned)	A Type C-36 unit was never a HU in the first place, and therefore cannot be a loss.

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[9] For a list of Type B and Type C NIs that are being used in the sample estimate, refer to Section IV of reference 4 of this memorandum.

Unit	Reason
Type C-37 (other Type C NI)	A Type C-37 unit is not in sample.
Type C-38 (unit eliminated in subsampling).	A Type C-38 unit is already represented by another sample unit.

GLOSSARY OF TERMS

Address Segment

      An address segment is made up of housing units in areas where most of the address listings contain complete addresses. Units in an address segment have a value of 1 in segment type variable SEGMTYPE on the AHS-N master file and weighting file. See *Segment Type*.

Age (Third-Stage R-E)

      The age of the head of household or reference person is determined by variable AGE on the AHS-N weighting file; used for the third-stage R-E of AHS-N weighting.

Balance MSA - Rural

      Units having a value of 2 in 1980 design MSA status variable MSASTA80 and a value of 2 in 1980 design urban/rural variable URBRUR80 on both the AHS-N master file and weighting file.

Balance MSA - Urban

      Units having a value of 2 in 1980 design MSA status variable MSATA80 and value of 1 in 1980 design urban/rural variable URBRUR80 on both the AHS-N master file and weighting file.

Base Weight

      A base weight (BW) indicates how many housing units in the population are represented by each unit in the sample. It equals the inverse of the probability of selection for a housing unit. With rare exceptions, the BW is 2,148 in AHS-N weighting (see *Weighting*). The BW is given by the variable BASICWGT on both the AHS-N master file and weighting file.

      Since *systematic selection* of sample housing units is employed in AHS-N, the BW is also equal to the *sampling interval* (SI) or *take every* (TE).

Basic Sample

      A basic sample in the AHS-N consists of mainly F4 (basic) and F8 (coverage improvement) sample housing units. The F4 and F8 samples were introduced in 1985 and are interviewed every two years. This sample includes units sent out in the current enumeration as well as all prior year Type C noninterviews. The supplemental sample flag for the basic sample on the AHS-N weighting file is blank. See *Supplemental Sample Flag*.

Black/Non-Black Head of Household (Third-Stage)

      The race of the head of household person (or reference person) is determined by the current year race variable RACE on the AHS-N weighting file. See *Race (Third-Stage) and Head of Household Status*.

Black/Non-Black Units

See *Race (First Stage R-E)*, *Race (Third-Stage R-E)*, and *Interviewed Housing Units.*

Black Non-Hispanic Units (First-Stage R-E)
>   Used for only first-stage housing units in the South Census region and in the Dallas OMB region and defined by the following (on both the AHS-N weighting and prior year data files):
>
>   1.   RACE = 2 and SPAN = 2 (for regular occupied interviews) or
>   2.   PYRACE = 2 and PYSPAN = 2 (for Type B and Type C NIs that were regular occupied interviews in the prior year)

Control Number (1990 design)
>   A unique 13-character field (CTRLNM13 on both the AHS-N master file and weighting files) that identifies each sample housing unit for AHS-N and contains the
>
>   1.   Primary Sampling Unit (PSU) - first through fifth character of control number, denoted by the variable PSU90 on the AHS-N master file and weighting file (see *PSU*),
>   2.   Segment number - sixth through ninth character of control number (assigned to each segment so that it is uniquely identifiable within survey and PSU),
>   3.   Serial number - 10th through 11th character of control number (assigned to each HU or special place located in an enumeration district), and
>   4.   Sample Designation - 12th through 13th character of control number (assigned to measures to indicate survey and sample).

Conventional New Construction
>   Non-mobile home housing units (current or prior year) constructed after the 1980 Census, defined by
>
>   1.   values other than 2 and 3 in type of housing unit variable TYPE (or PYTYPE) and
>   2.   1980 or later in year built variable BUILT (PYBUILT) on the AHS-N weighting file.

See *Type of Housing Unit* for the range of values under both TYPE and PYTYPE.

Coverage Improvement Address Segment
>   A CI (address) segment is made up of housing unit additions in address *enumeration districts* (EDs) that were added to the housing inventory since the 1980 Census. This segment includes all additions except new construction (which are included in the permit segment frame (see *Permit Segment*)). Units in this segment have a value of 8 in segment type variable SEGMTYPE on the AHS-N master file and weighting file. See *Segment Type.*

Coverage Improvement Area Segment

> A CI (area) segment is made up of housing unit additions in area EDs that were added to the housing inventory since the 1980 Census. This segment includes all additions in

> **!** Permit issuing CI (area) segments except new construction (which are included in the permit segment frame (see *Permit Segment*)) and
> **!** Non-permit issuing CI (area) segment including new construction.

> Units in a CI (area) segment have a value of 7 in segment type variable SEGMTYPE on the AHS-N master file and weighting file. See *Segment Type.*

Head of Household Status (Third-Stage R-E)

> Head of household (reference person) status consists of the following categories:

> **!** Husband and Wife - MAR = 1 or 2
> **!** Other Male (Not married) - MAR ... (1 or 2) and SEX = 1
> **!** Other Female (Not married) - MAR ... (1 or 2) and SEX = 2 on the AHS-N weighting file.

Hispanic/Non-Hispanic Head of Household (Third-Stage R-E)

> The Hispanic origin of the head of household (reference person) is determined by the CY variable SPAN on the AHS-N weighting file. See *Hispanic Origin (Current Year)* for values of occupied units are either Hispanic and non-Hispanic.

Hispanic/Non-Hispanic Units (First-Stage R-E)

> For first-stage housing units in the South and West Census regions, they=re defined by the following (both on the AHS-N weighting and prior year data files):

> 1. Hispanic (South and West regions):
> > **!** Regular occupied interviews: SPAN = 1
> > **!** Type B and Type C noninterviews: PYSPAN = 1.
> 2. Non-Hispanic (West region only):
> > **!** Regular occupied interviews: SPAN = 2
> > **!** Type B and Type C noninterviews that were regular occupied interviews in the prior year: PYSPAN = 2.

Hispanic/Non-Hispanic Units (Third-Stage R-E)

> For third-stage housing units, they are regular occupied housing units determined by the Hispanic origin of the head of household (reference person). See *Hispanic/Non-Hispanic*

Head of Household and *Hispanic Origin (Current Year)* for values of occupied units are either Hispanic and non-Hispanic.

Hispanic Origin (Current Year)

> Hispanic origin of a householder is determined by variable SPAN on the AHS-N weighting file.
> Hispanic: SPAN = 1; Non-Hispanic: SPAN = 2.

Hispanic Origin (Prior Year)

> Hispanic origin of a householder is determined by variable PYSPAN on the prior year and current year AHS-N weighting files.
> Hispanic: PYSPAN = 1; Non-Hispanic: PYSPAN = 2.

HUCS Segment

> A HUCS segment is made up of housing units that were missed or inadequately defined in the 1980 Census but were identified by the Housing Unit Coverage Study. Units in a HUCS segment have a value of 6 in segment type variable SEGMTYPE on both the AHS-N master and weighting files. See *Segment Type*.

Ineligible Vacant Units

> Vacant units that are not intended for occupancy as separate living quarters. This classification refers to URE or vacants in permanent housing units in transient hotels or motels, boats, recreational vehicles, caves, or tents and railroad cars. They have a value of 5, 7, 8, or 9 in type of living quarters variable TYPE and a value of 2 or 3 in interview status variable STATUS on the AHS-N weighting file.

Inside Central City

> Units having a value of 1 in 1980 design MSA status variable MSASTA80 on both the AHS-N master file and weighting file.

Interviewed Housing Units

> Interviewed housing units consist of units that are:

!	regular occupied	- STATUS = 1,
!	URE occupied -	STATUS = 2, and
!	(regular) vacant -	STATUS = 3 on the AHS-N
	weighting file.	

Metropolitan Supplemental Sample

> F4 and F5 sample housing units from the six metropolitan areas in the United States (Los Angeles, Chicago, Detroit, Philadelphia, Northern New Jersey, and New York City) that are not part of the AHS-N basic sample. Units in this sample have a value of 1 or 3 in the supplemental sample flag variable SUPSMPFG on the AHS-N master file and weighting file. See *Supplemental Sample Flag*.

Mobile Home Loss

A mobile home that was lost to demolition, fire, or natural disaster before the current interview. At one point, a MH existed on the property before it became a loss. Now, another HU (MH or non-MH) replaced that loss MH at the time of interview. If not, there may be a vacant lot where the loss MH stood. A mobile home loss unit has:

! a value of 2 in status of old housing unit variable HUHIS,
! a value of 2 or 3 in PY type of HU variable PYTYPE, and
! a model year of 1980 or later in PY year built variable PYBUILT

on the AHS-N weighting file.

Mobile Homes

Current year mobile homes are housing units having a value of 2 or 3 in CY type of housing unit variable TYPE on the AHS-N weighting file.

Prior year mobile homes are housing units having a value of 2 or 3 in PY type of housing unit variable PYTYPE on the prior year and current year AHS-N weighting files.

Model Year

Year built of mobile homes based on the manufacturer=s model year. See *Year Built.*

MSA - Central City

Units having a value of 1 in 1980 design MSA status variable MSASTA80 on the both the AHS-N master file and weighting file.

MSA Status

MSA status for housing units is determined by 1980 design variable MSASTA80 on the AHS-N master file and weighting file.

! 1 = Inside Central City (MSA-Central City)
! 2 = Outside Central City (Balance MSA)
! 3 = Outside MSA (Non-MSA).

New Construction Mobile Homes

Mobile home housing units (current year or prior year) constructed after the 1980 Census, defined by:

1. a value of 2 or 3 in type of housing unit variable TYPE (or PYTYPE) and
2. 1980 or later in CY year built variable BUILT (or PYBUILT) on the AHS-N weighting file.

Non-Hispanic Non-Black Units (First-Stage R-E)

> Used for only first-stage housing units in the South region or in the Dallas OMB region; defined by the following (on both the AHS-N weighting and prior year data files):

> 1.   Regular occupied interviews: RACE = 1, 3, 4, or 5 and SPAN = 2
> 2.   Type B and Type C NIs that were regular occupied interviews in the prior year: PYRACE = 1, 3, 4, or 5 and PYSPAN = 2.

Non-Mobile Homes

> Current year non-mobile homes are conventional housing units having values other than 2 and 3 in CY type of housing unit variable TYPE on the AHS-N weighting file.

> Prior year non-mobile homes are conventional housing units having values other than 2 and 3 in PY type of housing unit variable PYTYPE on the prior year and current year AHS-N weighting files.

Non-MSA-Rural

> Units having a value of 3 in 1980 design variable MSASTA80 and a value of 2 in 1980 design urban/rural variable URBRUR80 on both the AHS-N master file and weighting file.

Non-MSA-Urban

> Units having a value of 3 in 1980 design variable MSASTA80 and a value of 1 in 1980 design urban/rural variable URBRUR80 on both the AHS-N master file and weighting file.

Non-URE Occupied Units

> Units that are regular occupied. See *Interviewed Housing Units* for a value of regular occupied units.

Noninterviews

Units are classified as noninterviews when we expect to get interviews but don=t for one of the following reasons:

1.   Type A - no one home, temporarily absent, refused, language problem, other occupied.

2.   Type B - permit granted (construction not started), under construction (not ready), permanent or temporary business or commercial storage, unoccupied site for MH or tent, converted to institutional unit, occupancy prohibited, interior exposed to the elements.

3.   Type C - demolished or disaster loss, house or MH moved, unit eliminated in structural conversion, merged (not in current sample), permit abandoned, unit eliminated in subsampling.

Units that are noninterviews have a value of 4 in interview status variable STATUS on the AHS-N weighting file. See *Type A Noninterviews*, *Type B Noninterviews*, and *Type C Noninterviews* for detailed descriptions and values of these types of NI units.

NSR PSUs

Non-Self Representing PSUs. PSUs selected from multi-PSU strata to represent all the PSUs in the strata. Units in NSR PSUs have a value of 2 or 3 in 1980 design type of PSU variable PSUTYP80 or a value of 2 in 1990-design type of PSU variable PSUTYP90 on both the AHS-N master file and weighting file. Also, units in NSR PSUs have a value of 2 in type of PSU recode variable SRNSR on these same files.

Number of Rooms

The number of rooms for a HU is the recoded sum of:
!   Number of bedrooms (BEDRMS),
!   Number of kitchens (KITCH),
!   Number of living rooms (LIVING),
!   Number of dining rooms (DINING),
!   Number of family rooms (FAMRM),
!   Number of recreation rooms (RECRM),
!   Number of dens (DENS),
!   Number of business rooms (BUSIN), and
!   Number of other finished rooms (OTHFN).

The number of rooms is used only in the Type A NI adjustment of AHS-N weighting (see *Type A Noninterview*). Only prior year values are used. For prior year housing units, number of rooms is determined by the variable PYROOMS on both the current year and prior year AHS-N weighting files. For current year housing units, the number of rooms is determined by the variable NMROOMS on the CY weighting file.

Occupied (Housing) Units

A housing unit is classified as occupied if a person or group of persons is living in it at the time of the interview or if the occupants are only temporarily absent, for example, on vacation. However, if the unit is occupied entirely by persons with a usual place of residence elsewhere, the unit is classified as vacant (see *URE*). Same as regular occupied units. See *Interviewed Housing Units.*

Old Construction

Housing units selected from the 1980 Census, consisting of address, unit, and special place segments (see *Address, Unit, Special Place segments*). They have a year built earlier than 1980 (BUILT < 1980 on the AHS-N weighting file).

Other Urban Areas

(a)   1990 design units: supplemental sample units that are urban, but are not inside urbanized areas. Units that are other urban have a value of 1 in 1980 design urban/rural variable URBRUR80 and a value of 0 in 1990 design urbanized area code UACODE90 on the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to the supplemental sample units from the Los Angeles (PSU 06037 only) metropolitan area.

(b)   1980 design units: supplemental sample units that are urban, but are not inside urbanized areas. Units that are other urban have a value of 1 in 1980 design urban/rural variable URBRUR80 and a value of 9999 in 1980 design urbanized area code UACODE80 on the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to the supplemental sample units from the Los Angeles metropolitan area (PSUs 06037 and 06999).

Other Year-Round Vacants

See *Vacancy Status (Current and Prior Year).*

Outside Central City

Units having a value of 2 in 1980 design MSA status variable MSASTA80 on both the AHS-N master file and weighting file.

Outside MSA

Units having a value of 3 in 1980 design MSA status variable MSASTA80 on both the AHS-N master file and weighting file.

Owner-Occupied

An occupied housing unit is owner-occupied if the owner or co-owner lives in the unit, even if it=s not mortgaged or not fully paid for. See *Owner-Occupied (Current Year)* and *Owner-Occupied (Prior Year).*

Owner-Occupied (Current Year)

      Units that are owner-occupied in the current enumeration have a value of 1 in tenure status variable TENURE on the AHS-N weighting file.

Owner-Occupied (Prior Year)

      Units that are owner-occupied in the prior year have a value of 1 in prior year tenure status variable PYTENURE on the current year and prior year AHS-N weighting files.

Owners in All Areas

      Supplemental sample units having a value of 1 - 19, 44- 49 in 1980 design stratum code INSTRA80 on both the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to all units in address segments from the New York/Northern New Jersey metropolitan areas (PSUs 34003, 36059, and 36119).

Permit Segment

      A permit segment is made up of conventional HUs in the public and private sectors for which building permits were issued and the units were built since the 1980 Census. Units in a permit segment have a value of 4 in segment type variable SEGMTYPE on both the AHS-N master file and weighting file. See *Segment Type*.

Prior Year Type C Noninterviews

      Type C NIs that were eligible housing units for interview in the past before becoming ineligible in the prior enumeration (see *Type C Noninterviews*). Units that are prior year Type C NIs have a value of 9 (prior year enumeration) in current year enumeration variable CYENUM and a value of 30, 31, 32, 33, 36, 37, or 38 in variable TYPEC on the AHS-N weighting file.

PSU

      Primary Sampling Unit. Geographic sampling area made up of one or more contiguous counties or parts of counties. It is the first five characters of the 1990 design Control Number (see *Control Number*) and is represented on both the AHS-N master file and weighting file as variable PSU90.

Public Housing Units

      A housing unit is classified as being in a public housing project if the structure in which the unit is located is owned by any local or State government agency, such as a housing and redevelopment authority or a housing development agency, and operated as public housing. Such units have a value of 1 in public housing project variable PROJ on the AHS-N weighting file.

      During the second-stage of ratio-estimation, we exclude conventional new construction that are public housing units having a year built of 1988 or later (BUILT $ 1985 and PYBUILT $ 1988) from the sample estimate because our source of independent estimates for conventional NC, Survey of Construction, excludes them.

Race (Current Year)

See either *Race (First-Stage)* or *Race (Third-Stage)*.

Race (First-Stage R-E)

Used only for first-stage housing units in the Philadelphia, Atlanta, and Chicago OMB regions and defined by the following (on the prior year and current year AHS-N weighting files):

1.   Regular occupied interviews:
   !   Black: RACE = 2
   !   Non-Black: RACE = 1, 3, 4, or 5.
2.   Type B and Type C NIs that were regular occupied interviews in the prior year:
   !   Black: PYRACE = 2
   !   Non-Black: PYRACE = 1, 3, 4, or 5.

Race (Prior Year)

See *Race (First-Stage)*.

Race (Third-Stage R-E)

Race of the head of household (or reference person) is determined by the variable RACE on the AHS-N weighting file.

Black: RACE = 2; White and Other (or Non-Black): RACE = 1, 3, 4, or 5.

Ratio-Estimation

After we adjust the sample estimates for Type A NIs (see *Type A Noninterviews*), we use independent estimates from other Census surveys to improve the respective estimates during AHS-N weighting. We use ratios of the independent estimates and the sample estimates before application of the factor (ratio-estimation factors) to force the sample estimates into agreement with the independent estimates (controls).

In AHS-N weighting, we use these REFs in three stages:

1. **First-Stage.** Since we selected a sample of NSR PSUs from within each NSR stratum (see *NSR PSUs*), the sample estimates are adjusted to represent the entire NSR statum. The first-stage factors are applied to various residence-tenure categories or cells by region.
2. **Second-Stage.** The AHS-N sample estimates of new construction are adjusted to account for known sampling deficiencies (see *Undercoverage*). We control the sample estimates to independently-derived estimates for conventional HUs and MHs.
3. **Third-Stage.** The AHS-N sample estimates of occupied and vacant HUs are controlled to independent estimates from CPS (occupied units - in various tenure/hispanic origin or race of reference person combinations of cells by region) and HVS (vacant units - in geography/vacancy status combination of cells by region).

See sections XIII through X of these weighting specifications for further discussion of these three stages of ratio-estimation.

Region (Census)

Determined by variable REGION on both the AHS-N master file and weighting file.

! 1 = Northeast
! 2 = Midwest
! 3 = South
! 4 = West.

Region (OMB)

Determined by variable OMBREG on both the AHS-N master file and weighting file.

- **!**   1 = Boston
- **!**   2 = New York
- **!**   3 = Philadelphia
- **!**   4 = Atlanta
- **!**   5 = Chicago
- **!**   6 = Dallas
- **!**   7 = Kansas City
- **!**   8 = Denver
- **!**   9 = San Francisco
- **!**   10 = Seattle.

Regular Occupied Interview

See *Interviewed Housing Unit*.

Renter-Occupied

An occupied housing unit is renter-occupied if the unit is rented for cash rent or occupied without payment of cash rent. See *Renter-Occupied (Current Year)* and *Renter-Occupied (Prior Year)*.

Renter-Occupied (Current Year)

Units that are renter-occupied in the current enumeration have a value of 2 or 3 in current year tenure status variable TENURE on the AHS-N weighting file.

Renter-Occupied (Prior Year)

Units that are renter-occupied in the prior year have a value of 2 or 3 in prior year tenure status variable PYTENURE on the prior year and current year AHS-N weighting file.

Renters in Other Urban Areas

Units having a value of 20 - 43 in 1980 design stratum code INSTRA80, a value of 1 in 1990 design urban/rural code URBRUR80, and a value of 2 or 3 in 1980 design MSA Status variable MSASTA80 on the AHS-N master file. Used in assigning the sample adjustment factor to the supplemental sample units in address segments from the Northern New Jersey metropolitan area (PSU 34013).

Renters in Rural Areas

Units having a value of 20 - 43 in 1980 design stratum code INSTRA80 and a value of 2 in 1980 design urban/rural code URBRUR80 on the AHS-N master file. Used in assigning the sample adjustment factor to all supplemental sample units in address segments from the New York and Northern New Jersey metropolitan areas.

Renters in Urban Areas

> Units having a value of 20 - 43 in 1980 design stratum code INSTRA80 and a value of 1 in 1980 design urban/rural code URBRUR80 on both the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to the supplemental sample units in address segments from the New York and Northern New Jersey metropolitan areas (PSUs 34003, 36059, and 36119).

Renters in Urban Central City

> Units having a value of 20 - 43 in 1980 design stratum code INSTRA80, a value of 1 in 1980 design urban/rural code URBRUR80, and a value of 1 in 1980 design MSA Status variable MSASTA80 on both the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to the supplemental sample units in address segments from the Northern New Jersey metropolitan area (PSU 34013).

Rural (Area)

> See *Urban/Rural Code* for a value of units in rural areas. See *Urban Outside Urbanized Areas* for explanation of why we exclude units in rural (and urban outside urbanized) areas of Los Angeles from the AHS-N weighting process.

Rural Supplemental Sample

> Housing units from the F5 rural sample which are not part of the AHS-N basic sample. It is not being used this enumeration. See *Supplemental Sample Flag*.

Scale Values

> Scale values are assigned to each cell to indicate the order and priority in which one cell will collapse with another. When a cell does not meet the criteria specified in the collapsing instructions, it must collapse with at least one other cell.

Seasonal and Migratory vacants

> Seasonal vacant units are units that are intended by the owner to be occupied during certain seasons of the year. Migratory vacant units are units held for occupancy for migratory farm workers. They are not anyone=s usual residenece and include units occupied entirely by persons with a usual residence elsewhere and vacant units. See *Vacancy Status* for values of these units.

Segment Type

> The segment type of a housing unit is a frame to which a segment belongs, determined by variable SEGMTYPE on both the AHS-N master file and weighting file.
>
> - **!**   1 = Address
> - **!**   2 = Special Place (Group Quarters)
> - **!**   3 = Unit
> - **!**   4 = Permit
> - **!**   6 = HUCS
> - **!**   7 = Coverage Improvement - Area
> - **!**   8 = Coverage Improvement - Address.

Special Place Segment

> A special place segment is made up of units that are different from a usual private home or apartment. Examples of units in special place segments include hospitals, hotels, motels, jails, orphanages, large rooming or boarding homes, college dormitories, fraternity and sorority houses, military barracks, and monasteries. Units in a special segment have a value of 2 in segment type variable SEGMTYPE on the AHS-N master file and weighting file. See *Segment Type*.

SR PSUs

> *Self Representing PSUs*. PSUs that are the only ones in a strata. By design, SR PSUs are selected to represent the strata with certainty. Units in SR PSUs have a value of 1 in the 1980 design type of PSU variable PSUTYP80 or a value of 1 in 1990 design type of PSU variable PSUTYP90 on the AHS-N master file and weighting file. Also, units in SR PSUs have a value of 1 in type of PSU recode variable SRNSR on these same files.

Stratum Code

> A stratum code is assigned to a housing unit based on tenure (owner/renter/vacant) and number of rooms in structure during sample selection. It is used in assigning the sample adjustment factor to only the supplemental sample from the New York/Northern New Jersey metropolitan area in AHS-N weighting.
>
> Stratum code is determined by the 1980 design variable INSTRA80 on both the AHS-N master file and weighting file.

Supplemental Sample Flag

> The supplemental sample flag is used to designate the AHS-N sample, determined by the variable SUPSMPFG on the AHS-N master file and weighting file.
>
> - **!**   1 = In the MS supplement only
> - **!**   2 = In the rural supplement only
> - **!**   3 = In both the MS and rural supplement

!	blank value = basic sample.

Tenure Status

>	For occupied housing units in the current enumeration, tenure status is determined by the variable TENURE on the AHS-N weighting file. For occupied housing units in the prior enumeration, tenure status is determined by the variable PYTENURE on both the AHS-N weighting and prior year data files.

>	**!**	1 = owner-occupied
>	**!**	2 = renter-occupied, rented for cash
>	**!**	3 = renter-occupied, without payment of cash rent.

Type A Noninterviews

>	Eligible units where the interviewer was unable to obtain the necessary information to complete an interview from an occupied unit. We adjust the weight of interviewed (regular) occupied units which most closely resemble Type A NIs to help reduce the bias from these cases. Units that are Type A NIs have a value of 4 in interview status variable STATUS and a value of 1, 2, 3, 5, or 6 in noninterview reason variable NOINT on the AHS-N weighting file.

Type A Unable-to-Locate NIs

>	Units where the interviewer was unable to find them. We don=t include Type A Unable-to-Locate NIs in the Type A NI adjustment part of AHS-N weighting because we don't know if they're really Type A NIs; they may be either Type B or Type C NIs (see *Type B Noninterviews* and *Type C Noninterviews*). Units that are Type A Unable-to-Locate NIs have a value of 4 in interview status variable STATUS and a value of 4 in noninterview reason variable NOINT on the AHS-N weighting file.

Type B Noninterviews

>	Units that are not eligible for current interview but have a chance of returning for AHS-N interviews every survey year. If they become housing units again, they will be interviewed. Units that are Type B NIs have a value of 4 in interview status variable STATUS and a value of 10, 11, 12, 13, 14, 15, 16, or 17 in noninterview reason variable NOINT on the AHS-N weighting file.

Type C Noninterviews

>	Units that are not eligible for the AHS-N sample because they no longer exist or because of sampling reasons. They are not revisited in future years, and are dropped from the AHS-N sample. Units that are Type C NIs have a value of 4 in interview status variable STATUS and a value of 30, 31, 32, 33, 36, 37, or 38 in noninterview reason variable NOINT on the AHS-N weighting file.

Type of Housing Unit

> For current year housing units, type of housing unit is determined by variable TYPE on the current year AHS-N weighting file; for prior year housing units, type of housing unit is determined by variable PYTYPE on the AHS-N weighting and prior year data files.

> - !   1 = house, apartment, flat
> - !   2 = MH, no permanent room added
> - !   3 = MH, 1 or more permanent rooms added
> - !   4 = HU in nontransisent hotel, motel
> - !   5 = HU, permanent in transisent hotel, motel
> - !   6 = HU in rooming house
> - !   7 = boat or recreational vehicle
> - !   8 = tent, cave or railroad car
> - !   9 = HU, not specified
> - !   10 = unoccupied site for MH, trailer, or tent
> - !   11 = Group Quarters.

Type of Vacancy

> See *Vacancy Status*.

Undercoverage

> Each housing unit in the AHS-N sample represents a large number of other housing units. However, the housing units in the survey don=t represent all the housing units in the country because of incomplete sampling lists. This deficiency in sampling HUs is called undercoverage. Because of undercoverage, we raise proportionally (i.e., ratio-estimate) the sample estimates from the survey to match the 1990-based independent estimates of the total number of housing units (control totals) (see *Ratio-Estimation*).

Unit Segment

> A unit segment is made up of housing units in mostly rural areas where more than four percent of the addresses contained in the listings are incomplete or new construction is not monitored by building permits. Units in this segment have a value of 3 in segment type variable SEGMTYPE on the AHS-N master file and weighting file. See *Segment Type*.

Units in Structure

> For current year housing units, units in structure is determined by variable NUNITS on the current year AHS-N weighting file.

> For prior year housing units, units in structure is determined by variable PYNUNITS on the prior year and current year AHS-N weighting files.

Urban

> See *Urban/Rural Code* for a value of units in an urban area.

Urban/Rural Code

> Code that is used to distinguish land use, determined by the 1980 design variable URBRUR80 on both the AHS-N master file and weighting file.

> !   1 = Urban
>
> !   2 = Rural.

Urban Inside Urbanized Areas

> (a)   <u>1990 design units</u>: Units having a value of 1 in 1980 design urban/rural code URBRUR80 and a value other than 9999 in 1990 design urbanized area code UACODE90 on the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to the supplemental sample units from the Los Angeles (PSU 06037 only) metropolitan area.

> (b)   <u>1980 design units</u>: Units having a value of 1 in 1980 design urban/rural code URBRUR80, and a value other than 0 in 1980 design urbanized area code UACODE80 on the AHS-N master file and weighting file. Used in assigning the sample adjustment factor to the supplemental sample units from the Los Angeles (PSUs 06999 and 06037) metropolitan area.

Urban Outside Urbanized Areas

> (a)   <u>1990 design units</u>: Units having a value of 1 in 1980 design urban/rural code URBRUR80, and a value of 9999 (blank value) in 1990 design urbanized area code UACODE90 on the AHS-N master file and weighting file. Used in excluding the supplemental sample units from the Los Angeles metropolitan area (PSU 06037 only).

> (b)   <u>1980 design units</u>: Units having a value of 1 in 1980 design urban/rural code URBRUR80, and a value of 0 in 1980 design urbanized area code UACODE80 on the AHS-N master file and weighting file. Used in excluding the supplemental sample units from the Los Angeles (PSUs 06037 and 06999) metropolitan area.

> Units that are in urban outside urbanized areas (and rural areas) in Los Angeles are excluded from the AHS-N weighting procedure so that the sample units could be used for the Los Angeles MSA publication and the data file that will be produced using AHS-N data. This splitting of the sample is done to meet confidentially restrictions when it was determined that the population of both rural areas and the urban outside urbanized areas were less than 100,000 (the minimum geographic area that can be identified on data files using the 1980 Census geographic boundaries).

Urbanized Area

> Consists of one or more central cities and surrounding closely settled areas which meets certain criteria of population size or density. See *Urban Outside Urbanized Areas* for further discussion of these criteria.

> (a)   <u>1980 design units:</u> determined by the variable UACODE80 from the AHS-N master file for 1980 design units (0 = outside urbanized area).

> (b)   <u>1990 design units:</u> determined by the variable UACODE90 from the AHS-N master file for 1990 design units (9999 = outside urbanized area).

URE

> *Usual Residence Elsewhere.* Housing unit which at the time of enumeration was occupied by a person or persons, all of whom have a usual home elsewhere. These persons would already have a chance of selection for the AHS-N at their usual residence. Thus, a URE is counted as a vacant housing unit. A URE unit is also counted as an other year-round vacant unless it=s a seasonal and migratory vacant (see *Vacancy Status* and *Seasonal and Migratory Vacants*).

> Units that are UREs have a value of 2 in interview status variable STATUS on the AHS-N weighting file.

Vacancy Status

> Vacancy status for current year housing units is determined by variable VACANCY on the AHS-N weighting file.

> Vacancy status for prior year housing units is determined by the variable PYVACNCY on both the AHS-N prior year and current year weighting file.

> Vacancy status consists of the following categories:

> **!**   1 or 2 =Year-round vacants for rent
> **!**   3 = Year-round vacants for sale
> **!**   4, 5, 6 or 7 = Other year-round vacants (includes UREs)
> **!**   8, 9, 10 or 11 = Seasonal and migratory vacants.

Vacant Unit

> A housing unit is vacant if no one is living in it at the time of interview, unless its occupants are only temporarily absent. In addition, a vacant housing unit may be one that is occupied entirely by persons who have a usual residence elsewhere (see *URE*). A vacant housing unit (i.e., regular vacant, <u>not</u> URE vacant) has a value of 3 in interview status variable STATUS on the AHS-N weighting file.

Vacant Units (First-Stage R-E)
>
> First-stage vacant housing units are defined by the following:
>
> 1. STATUS = 2 or 3 (URE and vacant interviews, plus ineligible vacants); or
> 2. Prior year vacancy status variable PYVACNCY (only for Type B and Type C NIs that were URE and vacant interviews in the prior year) on the AHS-N weighting file.

Weighting
>
> Each housing unit in the AHS-N sample represents itself and over 2,000 other units. The exact number it represents is its Aweight@. We calculate the weight in several steps, as explained in sections IV through XI of these specifications. The purpose of these steps is to minimize both sampling error and error from incomplete data. The result of the steps is also to force consistency with some major categories of data in other Census Bureau surveys (see *Ratio-Estimation*), so figures do actually depend on the other surveys.

Year Built
>
> The year built of a housing unit refers to when the building was first constructed, not when it was remodeled or converted.
>
> Year built for current year housing units is determined by the variable BUILT on the AHS-N weighting file.
>
> Year built for prior year housing units is determined by the variable PYBUILT on both the prior year and current year AHS-N weighting files.

Year-Round Vacants
>
> Vacant housing units that are intended by the owner for occupancy at any time of the year. They can be either for sale, for rent, for sale or rent, or other. See *Vacancy Status* for values of year-round vacant units.

Year-Round Vacants for Rent
>
> See *Vacancy Status* for values of units that are Y-R vacants for rent.

Year-Round Vacants for Sale
>
> See *Vacancy Status* for values of units that are Y-R vacants for sale.

GLOSSARY OF WORD ABBREVIATIONS

Abbreviations	B	Phrase
AHSBN	B	**A**merican **H**ousing **S**urvey **B** **N**ational Sample
BW	B	**B**ase **W**eight
CI	B	**C**overage **I**mprovement Segment
CPS	B	**C**urrent **P**opulation **S**urveys Branch
CY	B	**C**urrent **Y**ear
DSD	B	**D**emographic **S**urveys **D**ivision
DSMD	B	**D**emographic **S**tatistical **M**ethods **D**ivision
HHES	B	**H**ousing and **H**ousehold **E**conomic **S**tatistics Division
HU	B	**H**ousing **U**nit
HUCS	B	**H**ousing **U**nit **C**overage **S**tudy
HVS	B	**H**ousing **V**acancy **S**urvey
LSB	B	**L**ongitudinal **S**urveys **B**ranch
MH	B	**M**obile **H**ome
MSA	B	**M**etropolitan **S**tatistical **A**rea
NC	B	**N**ew **C**onstruction
NI	B	**N**on**I**nterview
NSR	B	**N**on**B**S**elf **R**epresenting
OMB	B	**O**ffice of **M**anagement and **B**udget
(P)MSA	B	(**P**rimary) **M**etropolitan **S**tatistical **A**rea
PSU	B	**P**rimary **S**ampling **U**nit
PY	B	**P**rior **Y**ear
RBE	B	**R**atio**B**E**stimation
REF	B	**R**atio**B**E**stimation **F**actor
SAF	B	**S**ample **A**djustment **F**actor
SOC	B	**S**urvey **O**f **C**onstruction
SR	B	**S**elf **R**epresenting
URE	B	**U**sual **R**esidence **E**lsewhere
WCF	B	**W**eighting **C**ontrol **F**actor
Y-R	B	**Y**ear **R**ound

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